# The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 23. NO. 43 TULSA, OKLAHOMA, MARCH 19, 1925


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# Crude Oil Market Much Easier in Tone

**Average daily production in United States week ended March 14, 1,934,686 bbls. Gain from previous week, 4,404 bbls.**

## Refined Market Situation Largely Responsible. California Still Big Factor. New Production Increasing

**Highest daily average estimated production last year, week ended August 23, 2,057,319 bbls. Lowest January 12, 1,871,143 bbls.**

By Andrew M. Rowley

The crude petroleum situation has entered one of its periods of doldrums with oil men in certain quarters somewhat uneasy because of the weakness being displayed in the refined oil market which is being reflected, naturally, in an easier tone in the crude oil market. It is believed, however, the pessimistic feeling being evidenced is rather a good thing for the entire industry at this time as it may have a deterrent effect upon unnecessary drilling operations and upon refiners who have been breaking previous high records in the quantity of crude petroleum being run to stills.

There is no question but that many oil men believe the general condition weakened considerably during the past week. Various reasons are attributed but the most of them really go back to the refined oil market where prices have been slumping due to the fact consumption has not had a chance to take care of the vast quantities of gasoline, fuel oil and other refined products which have been made and which, as a result, refiners have been forced to add to their already heavy storage. The condition really dates back to last November when refinery runs began to reach record high proportions. At that time the demand was good and there was a reason for the big runs to stills but when the demand naturally slumped during the winter, the refiners continued running practically the same amount of crude to stills. This failure to curtail refinery throughput operations when consumption fell off due to weather conditions, could have but one result—a piling up of refined oil stocks. The scramble of refiners for crude created a somewhat artificial stimulus to the crude oil market much as it did early last year and the year before.

The present situation is by no means critical but it probably will serve to postpone for the time being at least any changes in crude oil prices in the Mid-Continent area. Development work in proven and semi-proven areas throughout the country is resulting in considerable new production which is offsetting losses in older producing fields.

As mentioned briefly in this column last week, California is a factor which will have an important bearing this year on the general situation., particularly in the Mid-Continent. Oil men seemed disposed to discount California and to give it little consideration because of the feeling the crude output there was bound to slump materially. That expected decline not only failed to materialize but the production of the State has held above 600,000 barrels a day with no immediate signs of any substantial drop. California markets cannot absorb that quantity of crude, consequently much of it, both in the form of crude and refined products will be, and is being sent to Atlantic Coast ports. That means just that much less demand for Mid-Continent crude and refined products. The experience of Mid-Continent producers and refiners during the past two years with the effect of California oils being sent in large quantities to Eastern markets is too vivid for them to have forgotten it so quickly. Increased consumption of course will help care for much of this oil but it would be poor judgment for oil men, especially in the Mid-Continent, not to realize that California during 1925 must still be considered as a competitor and that big buyers in the East will not hesitate to contract for large quantities of California crude and refined products when these oils can be delivered at Atlantic ports at a lower price than oils from the Mid-Continent or other sections delivered there.

A veritable boom is being experienced in the Smackover Field as a result of the deeper sand development there which is bringing in considerable new production of oil of 21 gravity. The reduction in price of Smackover crude announced late last week is believed to have been due to the weak fuel oil market and also to the new production being obtained and expected from the deeper sand found.

North Central Texas is the scene, also, of considerable activity which is resulting in much new production as is shown by the very substantial increase in average daily output in that territory last week as compared to the week before. As an example of the activity in that district, one concern brought in five new wells in the Gambrell Pool in Young County which are making about 1,005 barrels.

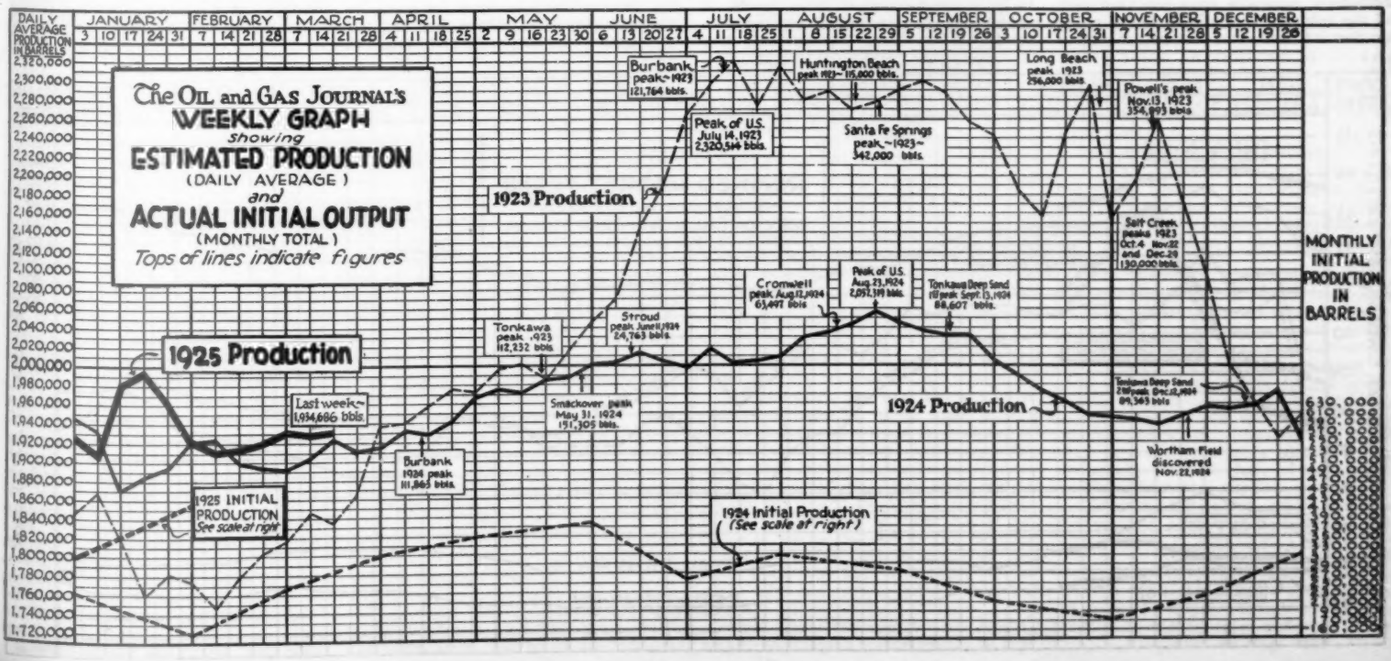
The new pool in Liberty County, Texas, in the Gulf Coast area, entered the major pool class early this week, having a production estimated at 16,000 barrels a day following the completion of three big wells there. The slump in production continues in Oklahoma which is aiding the general situation greatly as there has been a decline in output of more than 25,000 barrels a day during the past three weeks in that State alone.

### PRODUCTION IN THE UNITED STATES

**Estimated daily average crude oil production in the United States for the week ended March 14 and a comparison with previous week follows:**

| | Mar. 14 | Mar. 7 |
|---|---|---|
| **Oklahoma—Northern Fields:** | | |
| Tonkawa | 81,915 | 86,470 |
| Burbank | 56,115 | 55,815 |
| Other Osage Fields | 36,690 | 36,820 |
| Cushing and Shamrock | 22,885 | 22,905 |
| Bristow and Eastern Bristow | 33,565 | 33,815 |
| Cromwell | 32,770 | 35,360 |
| Papoose | 29,690 | 31,540 |
| Northern Miscellaneous | 101,605 | 100,410 |
| Southern Fields | 64,575 | 64,605 |
| Total Oklahoma | 459,810 | 467,740 |
| Northern Louisiana | 50,534 | 49,390 |
| **Arkansas—** | | |
| El Dorado and Calion | 9,200 | 9,130 |
| Smackover Light | 32,430 | 32,320 |
| Smackover Heavy | 65,705 | 62,347 |
| Stephens and Nevada | 3,677 | 3,545 |
| Total Arkansas | 111,012 | 107,342 |
| North Central Texas | 143,545 | 134,740 |
| Powell | 57,400 | 58,600 |
| Mexia, Currie, Richland, etc. | 33,030 | 33,160 |
| Wortham | 76,700 | 78,700 |
| Kansas | 84,595 | 85,540 |
| Total Mid-Continent Area | 1,016,626 | 1,015,212 |
| Gulf Coast | 78,895 | 75,800 |
| Southwest Texas | 43,145 | 43,505 |
| Eastern | 100,200 | 99,725 |
| Rocky Mountain Area | 92,320 | 89,540 |
| **California—** | | |
| Santa Fe Springs | 48,000 | 47,000 |
| Long Beach | 117,000 | 117,000 |
| Huntington Beach | 41,000 | 42,000 |
| Torrance | 41,000 | 40,000 |
| Dominguez | 52,000 | 54,000 |
| Remainder of State | 304,500 | 306,500 |
| Total California | 603,500 | 606,500 |
| Total United States | 1,934,686 | 1,930,282 |

→ **Increase, 4,404 Barrels** ←


The Oil and Gas Journal's
WEEKLY GRAPH
showing
ESTIMATED PRODUCTION
(DAILY AVERAGE)
and
ACTUAL INITIAL OUTPUT
(MONTHLY TOTAL)
Tops of lines indicate figures
DAILY AVERAGE PRODUCTION IN BARRELS
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
1925 Production
1924 Production
1923 Production
Last week~ 1,934,686 bbls
1925 INITIAL PRODUCTION See scale at right
1924 Initial Production (See scale at right)
Burbank peak~1923 121,764 bbls.
Peak of U.S. July 14, 1923 2,320,514 bbls.
Huntington Beach peak 1923~ 115,000 bbls.
Santa Fe Springs peak~1923~ 342,000 bbls.
Long Beach peak 1923 256,000 bbls.
Powell's peak Nov. 13, 1923 354,193 bbls.
Self Creek peaks 1923 Oct. 4 Nov. 22 and Dec. 29 130,000 bbls.
Tonkawa peak 1923 112,332 bbls.
Stroud peak June 1, 1924 24,763 bbls.
Cromwell peak Aug. 12, 1924 65,497 bbls.
Peak of U.S. Aug. 23, 1924 2,057,319 bbls.
Tonkawa Deep Sand 1st peak Sept. 13, 1924 84,607 bbls.
Smackover peak May 31, 1924 151,305 bbls.
Burbank 1924 peak 111,865 bbls.
Second Deep Sand 1st peak Dec. 25, 1924 89,363 bbls
Wortham Field discovered Nov. 23, 1924
MONTHLY INITIAL PRODUCTION IN BARRELS

# Principal Products Lower in Oklahoma

## Gasolines, Fuel Oils and Burning Oils Continue to Slump. Buyers Fearing Still Greater Declines Staying Out of Market

By C. O. Willson

With lower prices prevailing on all the principal refined products, buyers for the third successive week dominated the Oklahoma (Group 3) refined market. Optimistic predictions made a week or two weeks ago by the sellers regarding the temporary aspects of the reactionary price trend have not materialized in any product with no definite indications at this writing that the turning point is near. Confidence in the fundamental soundness of the market outlook is in fact not so general as it was a week ago, indicated by the fact that several refiners who previously had refused to lower their prices, have, during the past few days joined those who are actively seeking outlets for their plant output.

Up to this time the lower prices have only served to lessen the demand. Buyers able almost to name their own price in making purchases are apparently expecting still greater declines and are refusing to make the substantial purchases needed to absorb the excess offerings which are constantly increasing in volume.

Summarized, the main price developments of the past seven days are as follows:

**A three-quarter-cent drop in 58-60 U. S. Motor gasoline, the principal motor grade and a one-quarter to three-quarter-cent drop in all other grades including naphthas, natural gasolines and blends.**

**A 5 to 10-cent decline in all grades of fuel oils.**

**A one-eighth to one-quarter-cent drop in gas oils, distillates and kerosenes.**

This covers the general price changes. As usual, in a slumping market, there are a few sellers who are offering some material below these figures both for immediate and future shipment. In several instances, refiners are not announcing quotations but are making whatever price concessions are necessary to obtain their share of the limited amount of business now available.

### Crude Easier

The continued slump in the refined market has resulted in at least one change considered favorable from the viewpoint of the refiner. This applies to the crude market. A week or ten days ago a general advance in the posted crude schedules of Oklahoma and the rest of the Mid-Continent was believed the inevitable development of the competitive situation in the crude market in which both large and small buyers were seeking additional crude supplies. The past week has witnessed an almost complete reversal of opinion regarding the probable trend for the next few weeks with a general agreement that the weak refined market has forestalled any advance in crude prices in the immediate future at least.

As previously indicated few of the trade, including many refiners, refused to take the collapse in the refined market seriously when it first became apparent about a month ago. It was felt that in regard to gasoline at least, the lower prices would prevail only a short time to be followed by an upward market in expectation of the motor fuel requirements for the spring and summer. Due to this fact refiners in the Mid-Continent continued to seek crude connections, in many instances offering the usual premiums.

No general change was made in crude runs to stills, indicated in the fact that the Oil and Gas Journal's report for March 1 showed practically the same operating status as on February 1, the peak period in the history of the Mid-Continent Field. However, there have been several developments during the past week indicating that less crude is being run to stills and, what is more important at this time from a market standpoint, some crude has been released to the larger buyers who purchase on a posted price without premiums.

A few refiners at least have become convinced that the slump in the refined market has continued too long for quick recovery to the point where they can pay premiums over the posted price and still show a profit as they did in February and January. This situation is apparent when present open market prices are compared to those in effect early in January before the first crude advance was announced in the Mid-Continent. Since then the advances in posted crude prices have totaled 60 cents to $1.10, depending on the gravity.

### Position of Refiners

To offset this advance in the cost of raw material, refiners who sell on the open market based on today's prices have had a 3-cent advance in gasoline, a 15-cent a barrel reduction in fuel oil, one-quarter cent reduction in gas oil and distillates, with practically no change in remaining products except lubricants which are of relatively little importance in the Mid-Continent Field since only a few concerns have lub plants. Furthermore, there was a steady demand for all products in January in contrast to the present situation where refiners have been forced to add to their storage, especially gasolines.

From the above it is apparent that a few refiners are not breaking even in their operations. The comparative situation of refiners who have long time contracts for the sale of gasoline and fuel oil based on gasoline tank wagon and crude prices is more favorable. Their profits were not so large in January as the refiners who depended on the open market to dispose of their profit but in the general shifting of markets during the past two months they have suffered less.

The crude situation is being generally discussed because it is of unusual importance in gauging the probable trend in refined markets. Too great operating activity since last December on the part of Mid-Continent refiners is largely responsible for their present market. They have produced more of all products than the consuming market will absorb and at the same time they forced the crude market to a level where some of their number will be forced to curtail their operations or shut down entirely.

This tendency to reduce crude runs to stills will obviously tend to remedy existing conditions, provided it continues to spread. It will check the flood of products offered the consumers and at the

(Continued on Page 122)

### REFINED MARKET BAROMETER

The weakness in refined markets which had previously been apparent in the principal products of several areas, spread during the past week so that it now applies generally to all sections of the United States. The situation is due both to a sluggish demand and the large offerings of many sellers anxious to reduce their inventories. Gasoline prices declined rapidly in Pennsylvania and the Mid-Continent including natural gasolines and blends. Natural gasolines are weak on the West Coast with price cutting reported in the refinery market. The weakness and lower prices in fuel oils centers in the States where coal competition has reduced fuel oil consumption. Fuel distillates are also generally sluggish with the consuming season nearly ended. More kerosene is being offered than either the domestic or export market can absorb and prices are generally lower. The advance in neutral prices on the West Coast was the only important change in lubricants. Wax is also inactive.

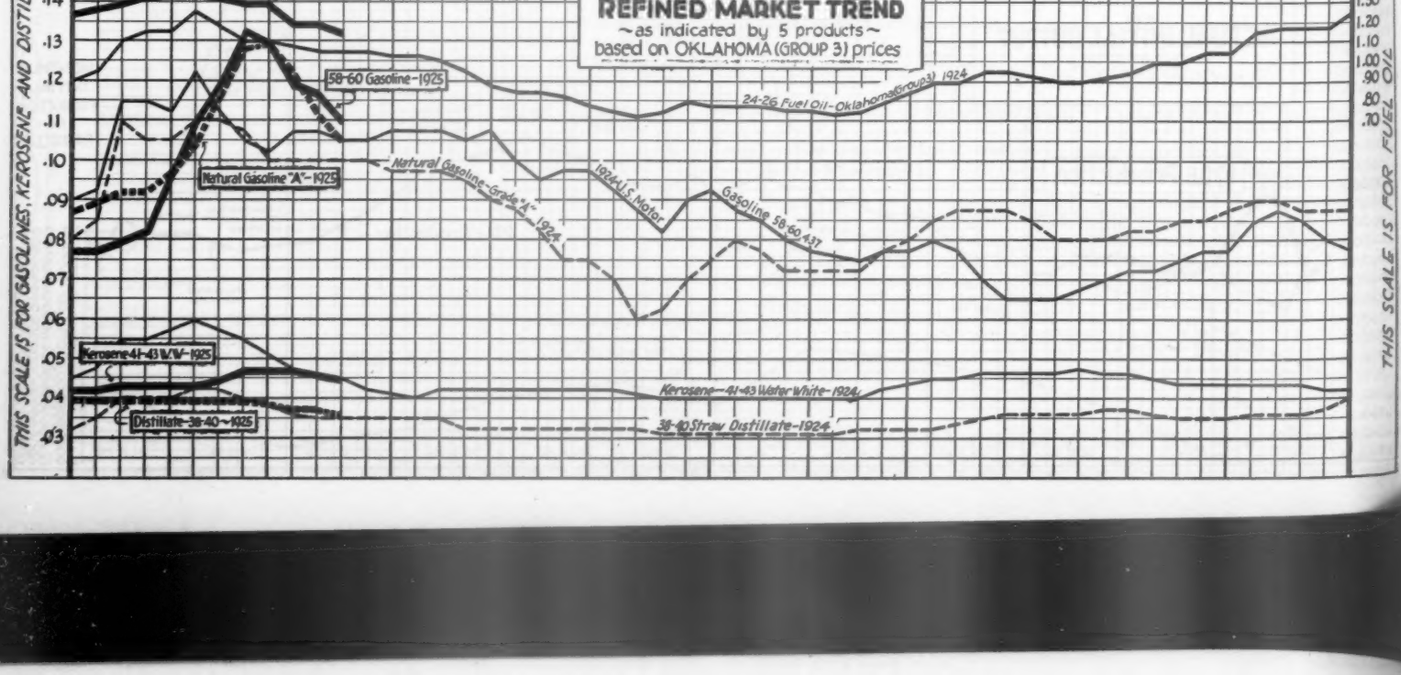
**Mid-Continent**—Refinery gasolines, natural gasolines and blends from ½ to 1 lower than last week. Gasoline demand confined to domestic market outside of long-time contracts. Fuel oils sluggish with lower prices reported from all areas. Fair movement of gas oil in Oklahoma, Kansas and North Texas, although prices are lower in all areas. Kerosene prices ⅛ to ¼ cent lower. No change in lubricants and wax.

**Atlantic Seaboard**—All products weaker. Recent advances in service station prices for gasoline totaling 7 cents in East believed to have reduced consumption. Kerosene dull. Fair demand for bunker oil. Gas oil active. Fair export demand for cylinder stocks.

**Pennsylvania**—Gasoline weak and prices from ¼ to ¾ cent lower. Kerosene and fuel oil soft. Better demand for cylinder stock. Neutrals holding their own. Wax soft.

**California**—Price cutting prevalent in gasoline market. Natural gasolines soft. All grades of neutrals advanced from ½ to 1 cent. Kerosene firm. No change in other products.

**Chicago**—Market generally sluggish and all prices lower.


CENTS PER GAL
JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
DOLLARS PER BBL.
THIS SCALE IS FOR GASOLINES, KEROSENE AND DISTILLATE
THIS SCALE IS FOR FUEL OIL
The Oil and Gas Journal's WEEKLY CHART showing REFINED MARKET TREND ~as indicated by 5 products~ based on OKLAHOMA (GROUP 3) prices
24-26 Fuel Oil-1925
58-60 Gasoline-1925
Natural Gasoline "A"-1925
Kerosene 41-43 W.W.-1925
Distillate 38-40-1925
24-26 Fuel Oil-Oklahoma Group 3 1924
Natural Gasoline-Grade "A"-1924
1924 U.S. Motor Gasoline 58-60 A.S.T.
Kerosene-41-43 Water White-1924
38-40 Straw Distillate-1924

# Plan to Enlarge Scope of Association

## Officers American Oil Men's Association Vote to Admit All Branches Industry to Membership. Open Annual Convention

By Neil Williams

KANSAS CITY, Mo., March 17.—A movement to join all branches of the petroleum industry into one gigantic organization was launched at a meeting of the officers and directors of the American Oil Men's Association at the opening of its annual three days' convention here today. The officers and directors voted unanimously at their session this morning to make recommendations for radically changing the scope of the American Oil Men's Association.

Although the recommendations for the changes will have to come before the general business session Thursday, it was ascertained from many oil men at the convention that indorsement of the officers' and directors' action stands more than a fair chance of being given Thursday and the plans put into effect at once.

The officers and directors, as a result of their business session, will recommend that classification of membership be removed entirely from the association and that marketers and jobbers, producers, refiners and supply men be admitted to the organization without distinction. In line with the foundation of a unified petroleum organization, recommendations that the American Oil Men's Association be made more national in character will be brought before the general business Thursday.

### Includes All Branches

The proposed plan would include representatives of all phases of the petroleum industry from California to Maine and from Washington to Florida. If these recommendations are indorsed at the general session Thursday, the general sentiment of the officers and members of the association is that an almost entirely new personnel of officers and directors will have to be elected so that the proposed new policy of the association may be conformed with to a better advantage.

As a result of the meeting of officers and directors, the association will be asked to increase the membership of the board of directors from 30 to 36 and expand the executive committee from a membership of 6 to 11. The full operating force of the association will be placed in the hands of the executive committee instead of with the board of directors as in the past. In addition a field secretary will be employed to carry on the work of the association more effectively.

As a whole the association will be put on a more practical basis, H. G. James of Chicago, secretary and manager, explained Tuesday.

### May Reelect Callaghan

Although there may be a considerable change in the lineup of officers and directors, it is more than probable that A. J. Callaghan of the American Corp., Jackson, Miss., will be reelected president of the association, members of the convention Tuesday seemed to feel.

The next meeting of the association will be held at Chicago Tuesday, Wednesday and Thursday of the third week in March, 1926, it was decided at the session Tuesday.

Confidence in the petroleum industry solving its problems satisfactorily and firm belief that the depression in the gasoline market will be of short duration were expressed on all sides at the convention. These feelings were brought out forcibly both by Mr. Callaghan and Mr. James, president and secretary, respectively, of the association.

Mr. Callaghan, who delivered one of the principal addresses of the afternoon session, expressed the sentiment of the association as a whole as being in sympathy with the Federal Oil Conservation Board, appointed by President Coolidge.

Members of the association were welcomed formally to Kansas City by Albett I. Beach, mayor of the city, who delivered the opening address of the first general session of the convention following a luncheon at the Kansas City Athletic Club where the convention is being held. The welcoming address was responded to by Mr. Callaghan. Marco Morrow, general manager of the Capper Publications, Topeka, Kans., spoke on "Ethics in Competition."

The session today was closed with a meeting of presidents and secretaries of the various State associations.

Approximately 150 oil men had registered for the convention by Tuesday night. Between 15 and 20 supply houses have exhibits in the roof garden of the club building. The Kansas City Athletic Club has thrown open its doors to members of the American Oil Men's Association, who have been granted the privilege of the club's entertainment features.

A. J. Callaghan

### A. J. Callaghan's Address

President Coolidge, in his wisdom, has appointed the Federal Oil Conservation Board. This association is in sympathy with this movement. The petroleum industry is so big, so important, so necessary that we must at all times see to it that it is conducted along ethical lines. You or I or anyone in the petroleum industry must not do anything unless we would be willing to put our stamp of approval upon it if it was done by someone else.

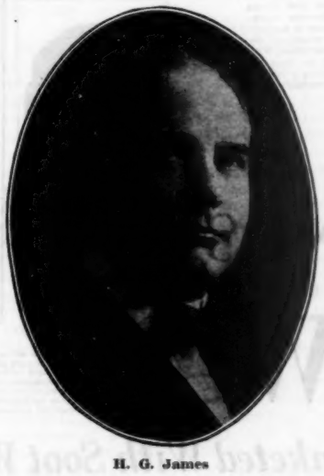
The petroleum industry is investigated oftener than any other industry, in fact it is being investigated most of the time by the State and Nation and in spite of it no indictment of wrong doing or restraint of trade or unwarranted prices has ever been made against the industry.

This association has gone on record before and goes on record again today of objecting to the unfairness of the daily press for criticizing the industry if there is an advance in the price of crude oil or gasoline or other petroleum products. They make sarcastic statements, when conditions make it necessary to advance the price. It's unfair and the quicker the petroleum industry objects to this kind of treatment, as a unit, the quicker it will be stopped. Why is it that they attack no other industry if the price goes up? Never a word of praise for the petroleum industry from the press about the losses which the petroleum industry takes from time to time on account of the decline in the market.

I believe the Conservation Board will correct some of the evils that now exist—for instance, I understand that in all government controlled land the oil man is compelled to drill regardless of economic conditions. At the time of overproduction and overrefining and when the industry was trying to save itself and to stop the overflow, the secret service department was continually on the trail of the producer, refiner, marketer and distributor. It is unfortunate, but true, when there is an apparent overproduction, certain government officials are continually and unnecessarily predicting a shortage of crude oil, which brings about additional drilling and production that means waste. Again I say that I believe that the Conservation Board will take care of this.

If we could plant the seeds as does the farmer in the spring and secure a growth of petroleum, as does the farmer in the various products, which he raises, we would have some control over our supplies, but we cannot and when you stop to think of the vast amount of crude oil that is refined daily to make gasoline alone, you surely know that we must have a large amount of oil in storage and must keep on producing, as the industry's storage tanks must not run dry.

The petroleum industry has not been ungrateful to the public, which is proved by the fact that no one can show any product similar in character to gasoline that is so convenient to obtain for so little cost. The petroleum industry is to blame for not having sold itself to the public, who will criticize if they must and who will ever compliment you or the other fellow when you are deserving of it.



H. G. James

The industry, gentlemen, has a wonderful record, but we have failed miserably to tell the public, who only ask for the truth and why should they not have it?

The petroleum industry, like any other successful industry, must make money and if it does not manage its business so that it does make money—I mean a legitimate profit with a reasonable amount set aside for depreciation, etc., there will be no one left to tell the story. The public wants the industry to make money because it knows the cost if the industry is not successful. We do not want any more years like 1923 and 1924. These years were bad for the industry and the public.

If you should ask what I recommend to better conditions, I would answer by saying there are too many in the petroleum industry who seem to thrive on idle talk, which amounts to nothing from the standpoint of the welfare of the industry and on account of this the public gets the wrong impression. Let me illustrate this to you. In a pullman car smoking room, sit six men, two oil men, four in other lines of industry. Suddenly some one of the four remarks that the price of crude oil has gone up or the price of gasoline has gone up, then comes a further remark that John D. wants to make a contribution or it's inventory time and the powers behind the throne bring up the price of crude oil, as inventory time is here and they must show a profit, although it is only on paper.

Instead of the two oil men, if only for the sake of argument or for the sake of the industry that gives them their bread and butter, defending the industry, they agree with the statement and say nothing.

How can any industry thrive if those who are in it do not stand up for it? The public must look to those in the industry for information and if we can give them the correct information why should we keep mum or speak disrespectfully of it?

This condition exists right within ourselves, there is too much idle talk. Let's be constructive in our conservation and let's swear by the industry that feeds us. Let's be leaders and defenders and not slackers. We have a moral obligation to the public and the petroleum industry and incidentally ourselves and if we cannot be honest with ourselves, how are we going to be of service to the public.

The petroleum industry is basic in character and affords a distinct opportunity for service. When we stop to think of the great advance made in the production, refining and distribution of petroleum and its products we must willingly admit that the industry has a record we should all be proud of and because of such strides petroleum and its products are sold at ridiculously low prices to the public.

Every producer, refiner and marketer is obliged and must continue to use the word economy for their password. Competition is so keen that they cannot do otherwise.

Think of the enormous amount of money spent for new and up to date equipment each year, which cancels previous investments, all necessary to bring about the low cost of petroleum and its products.

### Spoke on Simplification

R. M. Hudson, chief of the Division of Simplified Practice, Department of Commerce, Washington, D. C., spoke on elimination of waste through simplification and standardization. Referring to the oil industry he said:

"The American Petroleum Institute, through its division of standardization is making splendid progress in the simplification and standardization of oil country supplies and equipment. Committees are now working on the standardization of steel and iron pipe, rotary drilling equipment, cable drilling tool joints, rig irons, oil field boilers and many other items, the cost of which ultimately find their way into the price of a gallon of oil. Eventually you will share in the savings resulting from this work.

"Another application, which perhaps means more to you at this time is the simplification of sizes of steel barrels and drums. In May, 1922, representatives of the steel barrel industry called on the department of commerce for assistance in reducing the variety then prevailing. The survey showed 66 types and sizes being

(Continued on Page 126)

# Coal Interests Actively Opposing Oil

## Dealers Associations Busy With Propaganda Against Oil Burners for Heating. Use Fire Hazard and Fear of Shortage Arguments

By L. M. Fanning

Coal organizations, particularly dealer associations, have been and still are, carrying on a concerted campaign to discredit the use of fuel oil. While some of the oil companies and oil burner manufacturers believe the campaign to be malignant and in some cases harmful, others attach little importance to it. Nevertheless, the coal propaganda has been spread pretty generally through the press of the country. The most active campaign has been carried on in the New York and New England districts where fuel oil has made great headway both in industrial and household use. With fuel oil prices strong and advancing and coal prices declining, there is evidence of renewed attack by the coal people to get back business they have lost, on the ground of money saving. Although normally the activity in this direction would be slackened, due to the fact of the approach of the summer season, there is evidence that the coal interests expect to seize the present opportunities in an effort to influence householders to return to coal or against conversion to oil before next winter. In the marine field, the attempts to discredit the use of fuel oil have been mainly those of individual salesmen, and it is apparent that little headway has been made despite the increased cost of fuel oil.

The coal people, recognizing the continued heavy inroads being made by fuel oil, decided upon concerted action last winter, and their activity has been steady ever since. They regarded the advance in the household oil burner as the greatest menace and much of their campaign has been aimed at discrediting oil burners in sweeping statements of inefficiency and of hazard to life and property. The industrial user has not been overlooked, however, and the material issued for his consumption has endeavored to stress cost and plant breakdowns.

Inasmuch as the oil burner was singled out in particular, and as the use went into the homes served ordinarily by retail coal dealers, the campaign against fuel oil has been largely directed by retail coal dealers associations, which are almost as numerous in the East as county communities. Much of the direction of the campaign, however, is in the hands of the National Retail Coal Merchants Association, with headquarters in Washington, D. C.

Some of the local associations which have been distributing material against fuel oil are the Coal Merchants' Association of New York City, the Westchester County Coal Dealers Association of Westchester County, New York, and the New England Retail Coal Dealers' Association.

### Fire Records Cited

One of the first activities was to glean from the newspaper files all items tending to show up oil burners. Fire records have proven popular with the coal people, and they have distributed information to their members on individual fires traceable to oil burners, irrespective of the make and reliability of the burner, such propaganda to be used as a general condemnation of the use of all oil burners on the ground of hazard. The National Retail Coal Merchants Association and the New England Retail Coal Merchants' Association have been particularly active in exhuming such data from the newspaper files and presenting it to their members.

Favored propaganda against oil is that endeavoring to stress the insecure supply of petroleum. The coal people are alive to and are using as much as possible to their advantage, the material that is coming out in connection with the appointment by President Coolidge of the Federal Oil Conservation Board and with that board's questions and investigation. Anything of apparent official nature that indicates a possible scarcity of oil is seized upon.

During the oil investigations last year the coal interests emphasized evidence that related to a probable shortage of oil and the necessity of conserving petroleum for future generations. It was pointed out in association material, in addresses by coal men and in the coal trade journals that this is one of the strongest talking points in the coal man's campaign against the oil burning equipment salesman.

It was pointed out that no householder of the present generation need worry about a failure of the supply of coal. There will be coal for him and his children and his children's children. But the rapidity with which some of the

(Continued on Page 127)

Sample of coal propaganda against oil

GIRL ASPHYXIATED BY FURNACE GAS

CARBON MONOXIDE GAS IS FATAL TO GIRL; PARENTS ILL

RESULT OF BEING OVERCOME BY GAS FROM OIL BURNING FURNACE.

DAVENPORT, Ia., Jan. 7.—Elta Clara Keppy, 19-year-old daughter of Mr. and Mrs. Frank C. Keppy, of Donahue, a short distance north of here, is dead, while her parents are in a serious condition as a result of being overcome by carbon monoxide gas which escaped from an oil burning furnace in their home. Mr. Keppy, who is president of the Donahue Savings bank, had the furnace installed in his home a few days ago. They retired at 11 o'clock Saturday night. Sunday afternoon a married son, Dennis, went to his father's home and discovered Mr. and Mrs. Keppy and the daughter unconscious. Miss Keppy was at her post (at 3?) hours later. Physicians worked over the parents for several hours and finally succeeded in restoring consciousness.

—The fire department was called to the A. L. Swett Iron Works about five o'clock Saturday morning when an oil burner in the boiler room exploded wrecking the boiler. The night watchman, Martin Gaza, attempted to light the burner which had sprung a leak unknown to him. He was badly burned in the explosion.

Gas Victim and ents Who Have Narrow Escape

ELTA CLARA KEPPY
Dead

FRANK C KEPPY
Overcome

MRS FRANK C. KEPPY
Overcome

Elta Clara Keppy, 19-year-old daughter of Mr and Mrs Frank C. Keppy, prominent residents of Donahue, is dead, while her parents are seriously ill, but expected to recover, as a result of an oil burning furnace at their home generating carbon monoxide gas which they slept Saturday night and Sunday morning. They were discovered unconscious Sunday afternoon at 3 o'clock. Miss Keppy died two hours later in spite of every effort made by physicians to revive her. Mr Keppy, who is cashier of the Donahue Savings bank, is well known throughout the city and county. Miss Keppy graduated from the Davenport high school last June and recently completed a business college course in Davenport.

CONSUMERS GIVE UP OIL BURNING, SAYS COAL MAN

Adjustment of Prices Brings Users Back to Bituminous and Anthracite.

Oil is losing its hold on consumers who turned to its uses year ago because of the uncertainty of the coal supply, according to coal men in Chicago yesterday. The reasons given were higher oil and lower coal prices. Return to coal is reported among industrial as well as domestic consumers.

Four large consumers have returned to coal-burning after experimenting with oil. They are Swift & Co., consuming 18,000 tons yearly, Crane Company, 70,000 tons, Mt Sinai Hospital, 5,000 tons, and Johns Manville, 70,000 tons.

"Last year oil was tried out in a number of plants in New York and vicinity and also in Chicago," said an operator. "But with a slight decline in prices of anthracite, steam sizes and a corresponding advance in oil within the last month, already a number of these plants are changing back to coal, having found the experimental change costly and unsatisfactory."

UNITED PRESS SERVICE

BULLETIN OFFICE 'SMOKED OUT'

The Weekly Bulletin Office at 3[illegible] Milwaukee avenue was "smoked out" last Tuesday morning in one of the most peculiar accidents that has happened.

An oil burner furnishes the heat for the offices and instead of the burner generating the oil into a gas and burning a white flame, it started burning crude oil. After burning all night in this manner it plugged up the chimney with a heavy deposit and soon had the entire office covered with a half inch layer of black soft soot. It clung on to everything, even the ceiling and got into closed drawers, boxes and files.

As soon as it was discovered by Mr. Malin of [illegible] the fire department [illegible] they did what they could to put out the fire. It took two days of labor for several people to [illegible] this [illegible]. The Hoover vacuum cleaner came in handy on this job cleaning up. The damages were not heavy but it will take a few weeks before the soot will be entirely cleaned out.

KENOSH

THE OFFICIAL NEWS PAPER OF KENOSHA

[illegible]K WA[illegible]COUNT[illegible]

Stewart Home Blanketed With Soot When Oil Burner Fouls

SOOT GARLANDS HUNG BY SMOKE

Black Blanket Laid in Calvin Stewart Home While Family is Out.

FURNISHINGS RUINED

Damage is Estimated between $5,000 and $8,000; Question as to Insurance Liability.

Clouds of dense oil smoke, which for several hours yesterday, poured through the house of Attorney Calvin Stewart, 511 Park avenue, did damage estimated between $5,000 and $8,000. A blanket of oily soot, which in some places was one-eighth of an inch in thickness, was laid down over all the furnishings throughout the home, and hung in festoons from the walls and ceilings.

The damage was caused when an oil burning apparatus, which was installed and put into operation on October 16, failed in some mysterious manner. The burner, attached to the furnace, and fed from tanks of crude oil on the outside of the building [illegible]

Daily Evening Item.

WEATHER—LOCAL FORECAST
Fair tonight and Tuesday, much warmer, fresh south to southwest winds.

PRICE 2c

[illegible]ember 8, 1877. LYNN, MASS., MONDAY, JANUARY 28, 1924.—TWELVE PAGES.

COAL CHEAPER THAN OIL, SAYS STATEMENT

Company Engineers Compare Costs of Heating Ordinary 5-Room Cottage.

In order to get a proper comparison of the cost of heating an ordinary five-room cottage with coal and oil, one of the engineers of the Old Bee Coal Corporation here gives the following comparison.

"The additional equipment necessary to burn oil will cost close to $100. Charge yourself with 5 per cent on the investment and 5 per cent for depreciation [illegible]

FROZEN HYDRANTS, OIL EXPLOSION; LOSS $40,000 AT THE TEBBETTS' MANSION

MANY FAMILIES TRAPPED, TAKEN DOWN LADDERS

Hunt Residence In Rutherford Ruined By Fire

Oil Burning Furnace the Cause of the Blaze—Damage $10,000—Firemen Work Hard.

HEAVY SMOKE LOSS AT FOWLE NEWS CO.

Burning Oil in Basement Runs Big Stock of Candy, Cigars and Christmas Goods.

For [illegible] the Fowle's News Agency [illegible] a large quantity of candy [illegible]

FIREMEN BATTLE ZERO WEATHER

Home Was Divided Into Suites and Was Nearly Ready for Occupancy by Tenants.

VIRTUALLY TOTAL LOSS

# Again Up to Producing Division

## With Production Falling and No Big Pools in View Fewer Wells Are Drilling Now Than in Past Years

By James McIntyre

It has been estimated that the production of crude oil in the United States this year will not exceed 700,000,000 bbls., which would be an average of 1,917,611 bbls. per day. This estimate was made at a time when the Wortham, Tex., Field was on the ascendant and promised to yield many more millions of barrels of crude than subsequent events have shown it would yield, and when there was a threat that the Bazette area, also in Texas, might, before the middle of the year, throw an enormous quantity of crude oil on the market. The danger of Wortham is past, and the Bazette district has been discounted and is no longer believed to contain any more than a small percentage of the crude credited to it two months ago.

With Wortham and Bazette out of the way as possible very large producers of oil the 700,000,000-bbl. estimate might appear high, yet it is over 20,000,000 bbls. below the 1924 production; 38,000,000 bbls. under the 1923 production and 52,000,000 bbls. below the production for the 12 months beginning with April 1, 1923, and ending with March 31, 1924, which revised figures show was the period of greatest production in 12 months in the history of the oil business in America.

### The Trend of Production

The industry has always been interested in studying annual production, but long contented itself with using only calendar year figures with which to make comparisons. This did not give it a clear view of the production trend.

Two years ago The Oil and Gas Journal began the publication of figures showing in each issue a table giving the production for the preceding 12 months. Last year we began the publication from time to time of a progressive table presenting production by month and the 12-months' production at the end of each month for several years back. Such a table accompanies this article and it is an interesting study.

It shows, for example, that from November, 1921, until March, 1924, both inclusive, there was a gain in the production of the preceding 12 months at the close of each succeeding month. Since March of last year the 12-month production has been slumping pretty consistently, a move upward occurring only at the close of January, this year. At the close of February it had fallen again and it is expected that the downward trend will continue throughout this year. The close of March is expected to show a decline that will bring the 12-month production below what it was at the close of December.

### Wortham's Short-lived Influence

The only thing that might have stopped this decline would have been the discovery of oil at Bazette, and the consequent rapid development of a big producing field. It was the development of Wortham, in Texas, that caused the upward curve in production in January. Now Bazette is believed to be out of the way as a field of the first dimension and Wortham with its scant 800 acres of oil bearing sand can do no better than to hold level for a time and then slowly decline, and the industry scans the horizons and asks "where next?"

No one knows—one can but guess, where the pools that will keep production from slipping may be expected. The old cry "there is nothing in sight" holds good this spring as it did at this time last year. Tom Slick responded last year by opening the Tonkawa (Oklahoma) deep sand and his discovery was followed by a development that resulted in a production of 16,206,818 bbls. up to February 28 of this year. The deep sand production, together with discoveries in Richland, Wortham, Luling, Archer County and other pools of lesser importance in Texas; Cromwell, Papoose, Stroud and minor pools in Oklahoma; Rainbow Bend in Kansas and extensions to the Smackover Field in Arkansas, and the unexpectedly slow decline of California all helped to supply about 70,000,000 bbls. more oil in 1924 than the nearest guesser figured possible.

Again facing a time when no field looms large it makes the oil man do a lot of heavy thinking as to where we are to get even 700,000,000 bbls. of oil towards this year's needs. With the production of January and February a matter of record the industry must produce an average of 1,911,530 bbls. a day fom March 1 to December 31 to produce a total of 700,000,000 bbls. With the production in the first week of March averaging 1,930,282 bbls. the production throughout the remainder of the year need only fall by slow degrees, reaching bottom in the last week of the year at 1,892,782 bbls. a day to make a 700,000,000-bbl. output possible.

### Looking the Country Over

The Fort Collins district in northern Colorado may develop a large production in time but the pay sand lies at 4,500 feet, necessitating months in the drilling of a well, and one company owns most of the promising acreage on both the Fort Collins and Wellington domes. It will not figure prominently this year.

In the Pine Island district in Louisiana the Dixie Oil Co. is going down to the Trinity sand at about 4,400 feet to test it for oil. If the Dixie Oil Co. can prove that there is oil in large volume in the Trinity sand it would start a lot of drilling for the same sand in Louisiana and Texas. Such pools, if they exist, would be hard to find and of small area, but of high productivity.

Along the Balcones fault in Texas, from Kosse to Luling, geologists believe oil is hidden, only awaiting the drilling of wells so located as to find the right spots, but it may take years of exploration work to locate other pools like Luling. It will be recalled that over $1,000,000 was spent in test wells by the United North & South Oil Co. before oil was discovered in the Luling Field.

All the favorable looking places in Oklahoma now being tested or recently opened call for deep drilling and necessarily slow development.

Arkansas' only immediate promise is the deeper drilling in the Smackover Field where low gravity production was recently uncovered, which will be followed by more exploration work at lower levels.

Texas operators with acreage in Throckmorton County believe they have a good wildcat play in that county. The remoteness of the West Texas area removes it from consideration as a factor in oil production this year. Regan County is over a year old and had it been more favorably located geographically would have long since been a major field, but it is yet being developed slowly. Any other field opened in that part of the State, where a great leasing campaign has been going on for months, would experience the same delay that Regan County has. The Liberty Field looks like the best of the new discoveries in the South Texas area. Looking Texas all over the Mexia fault area continues to offer the most promise, as wildcatting will continue, notwithstanding several years of discouragement in northern Navarro, Hunt, Henderson, Kaufman and other counties.

California appears to be limited to deeper drilling in some of its old fields, extensions of old territory and the development of its newer pools. However, no one discounts California any more. It may continue to figure as an important factor in the general situation even beyond this year.

Montana, Wyoming and Kansas are not expected to show any new large fields this year.

### Falling Off in Field Work

Since the beginning of the industry until the close of 1924 the domestic production and imports of Mexican crude have been more than sufficient to keep the refining industry supplied with crude oil. Just now a heavy draught is being made on stocks east of California, with everything pointing to a steady decrease in production unless unlooked for fields are discovered. To stay this decline the number of wells drilling east of California at the close of February was only 3,493 and of these 774 were drilling east of the Mississippi River where big initial production is practically out of the question. This leaves 2,719 wells drilling between California and the Mississippi River—the Mid-Continent, Rocky Mountain and Gulf Coast districts, and this number is small compared with the 5,360 wells classified as drilling at the close of February, 1920, in the same territory. At the close of February, 1921, still in the same territory, 3,373 wells were drilling, or over 600 more than at present, and there was a partial shut down of operations at the time because of a falling crude market.

In Oklahoma at the close of last month 1,006 wells were classified as drilling. In February, 1921, there were 1,245 wells on the drilling list in the same State. In North Central Texas in February, 1920, 2,587 wells were carried on the drilling register as against 238 at the close of February this year, but many of the so-called drilling wells in 1921 in that area were started by promoters and later abandoned. Two years later 1,424 bona fide drilling wells were listed, or six times as many as are being drilled in North and Central Texas today.

It will be seen that the producing end of the industry is not nearly as active now as in past years. There are fewer favorable looking places in which to drill and the expense and consequent hazard is much greater. On the law of averages the fewer the number of wildcats, the fewer the new pools that may be opened. It will require a stiff market price for crude to rouse many wildcatters from their indifference and the crude market price at this time is little higher than in 1921, when there were over 6,000 wells drilling east of California as against 3,492 in the same month this year.

### Accustomed to Big Figures

The oil industry has become so accustomed to a daily production ranging between 1,900,000 and 2,000,000 bbls. that it is likely to forget that only a few years ago the United States was producing less than 1,000,000 bbls. a day. In the year 1918, while we were actively engaged in a war with Germany, and the United States and European Allies were in great need of oil, this country produced only 975,000 bbls. a day in the midst of a tremendous drilling campaign in every part of the country where oil might possibly be found. It is true that the production that year exceeded that of the previous year but the total was only 355,928,000 bbls., which, with the 1925 demands of the refining industry of over 2,000,000 bbls. a day would not half fill the domestic need. A steady increase in production since 1918 through the discovery and development of pools like Burbank, Tonkawa, Hewitt, Bristow, Cromwell, Deaner-Lyons and others of lesser note in Oklahoma; pools in Marion, Greenwood and Cowley County in Kansas; Salt Creek in Wyoming, Long Beach, Santa Fe Springs, Huntington Beach and Dominguez in California; Mexia, Powell, Wortham, Richland, Luling and other pools in Texas; Haynesville, El Dorado and Smackover in the Louisiana-Arkansas division, ran the production up almost uninterruptedly until September 1923 when it reached a high average of 2,215,752 bbls. a day for the month. Since that time production has been down and up and down again, with consumption increasing, and the large volume of crude stocks accumulated during the overproduction period is being drawn upon.

The situation is again up to the producing division.

### GASOLINE DRIVEN TRAIN

A two-car gasoline motor-driven train to be used by the Boston & Main Railroad as the latest of several experiments in passenger operation, will be tried between North Adams and Troy, N. Y., displacing steam passenger trains. This rail motor train has a capacity of 82 passengers, 30 in the motor car, which also has a large baggage compartment, and 52 in the trailer coach.

**GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES BY MONTH SINCE 1920 AND PRODUCTION AT END OF EACH MONTH FOR THE 12 MONTHS JUST PASSED**

| Month— | 1920 Production for Month | 1920 Production for Past 12 Mos. | 1921 Production for Month | 1921 Production for Past 12 Mos. | 1922 Production for Month | 1922 Production for 12 Mos. | 1923 Production for Month | 1923 Production for Past 12 Mos. | 1924 Production for Month | 1924 Production for Past 12 Mos. | 1925 Production for Month | 1925 Product'n for Past 12 Mos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 34,008,000 | 383,540,000 | 38,138,000 | 447,059,000 | 43,696,000 | 477,741,000 | 54,636,000 | 568,471,000 | 58,629,000 | 742,872,000 | 61,263,000 | 723,367,000 |
| February | 33,193,000 | 390,184,000 | 35,524,000 | 449,390,000 | 41,314,000 | 483,531,000 | 49,958,000 | 577,115,000 | 55,716,000 | 748,630,000 | *53,809,000 | *721,468,000 |
| March | 36,171,000 | 396,403,000 | 41,105,000 | 454,324,000 | 47,188,000 | 489,614,000 | 57,329,000 | 587,256,000 | 61,163,000 | 752,464,000 | ..... | ..... |
| April | 34,945,000 | 401,720,000 | 50,232,000 | 459,642,000 | 45,167,000 | 494,548,000 | 58,344,000 | 600,432,000 | 58,174,000 | 752,294,000 | ..... | ..... |
| May | 36,622,000 | 407,755,000 | 43,189,000 | 465,179,000 | 47,002,000 | 499,361,000 | 61,624,000 | 615,055,000 | 61,550,000 | 752,220,000 | ..... | ..... |
| June | 36,663,000 | 413,540,000 | 40,548,000 | 469,064,000 | 46,087,000 | 504,900,000 | 62,538,000 | 631,506,000 | 60,788,000 | 750,470,000 | ..... | ..... |
| July | 37,746,000 | 417,266,000 | 40,461,000 | 471,779,000 | 47,134,000 | 511,573,000 | 68,005,000 | 652,377,000 | 62,609,000 | 748,074,000 | ..... | ..... |
| August | 38,906,000 | 422,559,000 | 41,109,000 | 473,982,000 | 47,059,000 | 517,523,000 | 67,977,000 | 673,295,000 | 63,262,000 | 740,359,000 | ..... | ..... |
| September | 37,521,000 | 426,187,000 | 36,763,000 | 473,224,000 | 45,805,000 | 526,565,000 | 66,473,000 | 693,963,000 | 60,640,000 | 734,826,000 | ..... | ..... |
| October | 39,584,000 | 431,557,000 | 35,832,000 | 469,472,000 | 48,410,000 | 539,143,000 | 67,783,000 | 713,336,000 | 60,809,000 | 727,852,000 | ..... | ..... |
| November | 38,609,000 | 437,140,000 | 38,108,000 | 468,971,000 | 48,027,000 | 549,062,000 | 65,278,000 | 730,587,000 | 58,207,000 | 720,481,000 | ..... | ..... |
| December | 38,961,000 | 442,929,000 | 42,173,000 | 472,183,000 | 50,642,000 | 557,531,000 | 58,932,000 | 738,879,000 | 59,184,000 | 720,733,000 | ..... | ..... |
| Total 12 months.. | 442,929,000 | | 472,183,000 | | 557,531,000 | | 738,879,000 | | 720,733,000 | | | |

*Estimated.

# California Again Menace to Oil Market

## Large Shipments of Crude and Refined Oils to Atlantic Ports Probable During the Whole of 1925. Affects Mid-Continent

By N. O. Fanning

NEW YORK, March 16.—Once more California looms as a menace to the crude and refined oil price structure east of the Rocky Mountains. Actual developments point to a new flood of California oil, but it may be only temporary.

One of the best outlooks the oil industry has ever faced was ruined in 1923 when California producers and refiners found themselves face to face with the proposition of having on their hands 50 to 75 per cent more oil than they could use, and dumped their surplus on the world markets. Practically the same thing may happen now. While the California fields do not seem at present capabale of producing as much as in 1923, the menace of California from the viewpoint of the eastern markets lies in the fact that production does not promise to decrease any further, and at the present rate results in piling up stocks on the Pacific Coast beyond the point ever before reached.

While stocks of oil east of the Rocky Mountains have continued to gain. The addition to crude oil stocks have not been so large, but the surplus supply of gasoline is said to be far beyond normal.

### Gasoline Big Factor Now

Where the eastern markets were flooded with California crude in 1923, it seems that they will be called upon to absorb a large amount of California gasoline this year.

It is understood that as a result of the increase in prices in the East since January 1, California has been placed in the position of being able to undersell eastern refiners, and several large contracts for gasoline have been placed by California refiners with Atlantic and Gulf Coast marketers at prices which were lower than could be obtained from Mid-Continent gasoline manufacturers, taking into account delivery charges.

The Standard Oil Co. of New Jersey is understood to have purchased several million gallons of California gasoline, to be delivered from San Francisco. The Standard of New York, Vacuum Oil and Sun Oil Companies are also said to have bought gasoline from California refiners. Deliveries on all these contracts have already started.

It is possible that with increased consumption, the world markets will be able to absorb all of the oil offered at current prices. However, operators East of the Rocky Mountains will do well, in the opinion of well informed eastern oil men, to consider the possibilities with regard to a new influx of California products.

### California Situation Pictured

The Oil and Gas Journal's California correspondent, L. P. Stockman, says as of March 7: "Production of crude in California is still hovering around the 600,000-bbl. a day level and there does not seem to be any indication that it will drop very much below this figure within 60 days at least. Long Beach is holding up far beyond expectations and recent completions in other fields have had a tendency to keep production up. Rosecrans has shown a nice increase during the past few months due to completions in the northern part of the field and present development work indicates that additional producers can be expected from time to time. Santa Fe, Huntington Beach and Torrance seem to have reached the bottom and no material drop can be expected in these fields. Dominguez is maintaining a flow of around 50,000 bbls. a day and should not fluctuate very much. From a production standpoint things do not look any too bright. It is expected, however, that with better prices prevailing in the East, crude and refined oils can be marketed there to advantage. It is a foregone conclusion that California will continue to export crude, fuel oil and refined oils for several months as the Pacific slope cannot assimilate 600,000 bbls. a day."

Coupled with the actual condition in California, is the fact that imports of crude and fuel oils have increased materially in the past few months. Imports at Atlantic Coast ports reached a low point of 85,000 bbls. daily in December, 1924. They increased to 133,000 bbls. daily in January and to 147,000 bbls. daily in February. In addition to the gain in imports from Mexico, two Atlantic Coast refiners are now taking regular shipments from Venezuela and Peru.

Oil men in close touch with the situation say that the markets may be able to absorb all of the California and imported oils may be offered in the markets east of the Rockies, in addition to the regular output of the Mid-Continent and other eastern fields, without any decrease in prices—provided no big pool is opened up in the latter areas. However, drilling has increased, with several good showings, in certain parts of Texas and in Colorado.

In the latter part of 1924, eastern oil factors reduced their purchases of California crude and refined oils materially, and the outlook was that 1925 purchases would be only 50 per cent as great as those in 1924. Since December they are understood to have revised their ideas concerning the advisability of continuing California purchases. They did so because Wortham production declined suddenly, and no new pools were opened up in the Mid-Continent to take its place. In February, it is understood that negotiations were entered into with California producers with the result that receipts this year will be almost as large as in 1924, according to present indications.

The next two or three months will decide whether the market can absorb this additional California oil without any effect on the price structure.

### Receipts Reflect Situation

The Oil and Gas Journal's weekly estimates of oil receipts by water at Atlantic ports are significant of the change that seems to have taken place with regard to purchases of oil by eastern refiners and marketers. The following table shows daily average receipts from the principal sources by weeks since January 1, 1925:

| From Week Ended— | Gulf | Pacific | Imports | Total |
|---|---|---|---|---|
| March 11 | 156,000 | 71,000 | 106,000 | 333,000 |
| March 4 | 316,000 | 23,000 | 167,000 | 506,000 |
| Feb. 25 | 214,000 | 99,000 | 204,000 | 516,000 |
| Feb. 18 | 316,000 | 37,000 | 90,000 | 442,000 |
| Feb. 11 | 277,000 | 42,000 | 166,000 | 485,000 |
| Feb. 4 | 249,000 | 61,000 | 134,000 | 444,000 |
| Jan. 28 | 386,000 | 78,000 | 166,000 | 629,000 |
| Jan. 21 | 257,000 | 26,000 | 68,000 | 351,000 |
| Jan. 14 | 244,000 | 61,000 | 183,000 | 488,000 |
| Jan. 7 | 319,000 | 146,000 | 78,000 | 543,000 |

The Oil and Gas Journal's estimates show that receipts in 1924 from the Gulf Coast at Atlantic ports averaged 256,000 bbls. daily, from the Pacific Coast 123,000 bbls. daily and imports averaged 112,000 bbls. daily. The above tabulated figures indicate a gain in imports since 1924 and show a downward tendency in receipts from the Gulf Coast. The California figures are not so significant, but the Journal's California report and receipts during the last few days indicate a marked gain in receipts from California at both the Atlantic and Gulf Coasts.

The Sun Oil Co. landed a good-sized cargo of gasoline at Jacksonville the past few days, and several additional cargoes are now en route from San Francisco to various ports on the Atlantic seaboard.

## WIDE RANGE OF SUBJECTS WILL BE DISCUSSED BY GEOLOGISTS

WICHITA, Kans., March 16.—A preliminary list of papers to be read at the annual meeting of the American Association of Petroleum Geologists in this city on March 26, 27 and 28 has been made public by Secretary C. E. Decker, Norman, Okla.

Dr. John M. Clarke, State geologist of New York, will be a guest of the association and will address the meeting on Thursday evening.

All technical sessions will be held in the lodge room on the third floor of the new Elks Club, which is near the Hotel Lassen.

A wide range of subjects and four continents will be embraced in the papers to be presented in the course of the three days' sessions. The subjects are divided territorially as follows:

**Kansas**

General Stratigraphic Background of Kansas, by R. C. Moore.
Structural Conditions in the Vicinity of the Igneous Intrusive in Clay County, Kansas, by Marvin Lee.
The Subsurface Geology of Wilson County, Kansas, by W. L. Stryker.
Geology of Russell County, Kansas, Both Surface and Subsurface, by M. M. Valerius.
General Structural Conditions in Kansas and Some Type Structures, by Everett Carpenter.
Significance of Some of the Surface Structures of Central and Western Kansas, by W. H. Twenhofel.
Type Structures of Western Kansas, by C. R. Thomas.
The Permian of Kansas, by R. C. Moore.
The Subsurface Distribution of the Comanchean of Western Kansas, by W. L. Stryker and W. H. Twenhofel.
New Data on the Comanchean Strata of Central Kansas, by W. H. Twenhofel and W. L. Stryker.
The Dakota Formation of Kansas, by A. C. Tester.
Rainbow Bend Field, Cowley County, Kansas, by D. R. Snow and D. P. Dean.
Observations and Problems Concerning "Shoestring" Oil and Gas Pools, by John L. Rich.
The Producing Sand of the Thrall-Burkett-Seeley Fields, Greenwood County, Kansas, by Raymond M. Carr.

**Oklahoma, Texas and Adjacent States**

Suggestions Concerning the Probable Subsurface Structure of the High Plains of Western Texas as Deduced from Observations of the Surface in Trans Pecos, Texas, by W. A. J. M. van der Gracht.
The Lower Permian of Northern Oklahoma, by F. L. Aurin and G. C. Clark.
The Subsurface Stratigraphy of Western Oklahoma, by Frank C. Greene.
Wilcox Sand Production, Tonkawa Field, by Glenn C. Clark.
Areal Extent and Stratigraphy of the Whitehorse Sandstone, by R. L. Clifton.
Relationship of Mountain Folding to the Oil & Gas Structures of Southern Oklahoma, by C. M. Becker.
A Peculiar Faulted Area at the Southeast End of the Anadarko Basin, by J. V. Howell.
The San Angelo Formation in Texas and Its Probable Extension in Oklahoma, by J. W. Beede.
Geology and Oil Fields of Archer County, Texas, by M. E. Hubbard and W. C. Thompson.
Some Notes on the Permian of New Mexico and Arizona, by N. H. Darton.
The Subsurface Geology of the Reagan County, Texas, Oil Field, by E. H. Sellards and L. T. Patton.
New Aspects of the Currie Field in Navarro County, Texas, by F. H. Lahee.
The Age of the Chalk at White Cliffs, Ark., by Alva C. Ellisor.
Some Occurrences of Radiolaria in Texas Sediments, by Johan A. Udden.
The Luling Field, Caldwell and Guadalupe Counties, Texas, by Ernest W. Brucks.
Volcanic Ash: A Possible Key Bed in Louisiana and Arkansas, by H. D. Easton.
The Subsurface Structures of Northeastern Oklahoma, by Dr. W. T. Thom.
The Springer Member of the Glenn, by James A. Waters.
The Origin of the Faults in Osage and Creek Counties, Oklahoma, by Lyndon L. Foley.
The Papoose Pool, by Harry H. Nowlan.
The Cromwell Oil Pool, by L. G. Keppler, G. A. Kroenlein and A. W. Lauer.
The Permian Formations of Kansas, Oklahoma and Northern Texas, by C. N. Gould.
Possible Correlations of Producing Sands of the Hewitt and Graham Fields in Carter County, Oklahoma, by Willis Storm.
Volcanic Rock in Another Producing Well Near Litton Springs, Texas, by H. P. Bybee.
A Notable Unconformity in the Permian of North Texas, by Clifton W. Clark.

**Rocky Mountain Region**

A Study of Some Upper Cretaceous Diastrophism and Sedimentation in Montana, by A. A. Hammer and A. M. Lloyd.
Some Features of Red Bed Bleaching (Southern Montana), by Gail F. Moulton.
Big Lake Field, Lake Basin District, Montana, by C. Max Bauer.
Some Structural Problems in Northwestern South Dakota, by Roy A. Wilson.
Faulting in the Rocky Mountain Region, by J. S. Irwin.
Correlations in Eastern Utah and Western Colorado, by Glen M. Ruby.
The Occurrence of Black Oil in Wyoming, by John G. Bartram.

(Continued on Page 127)

## GASOLINE VERY WEAK IN OIL CITY MARKET

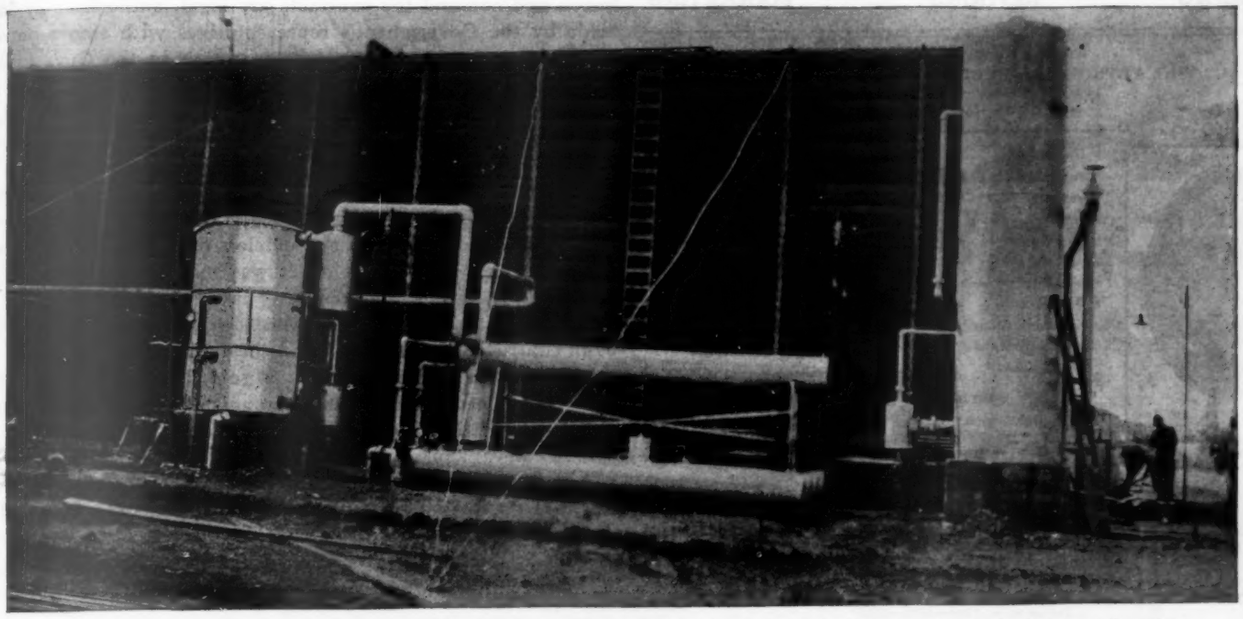
OIL CITY, Pa., March 14.—The week's story of the northwestern Pennsylvania refined district is not an encouraging one.

Gasoline is extremely weak. The price is lower and the demand is also off. There are a number of reasons for this condition; the price went too high in anticipation of a tank wagon increase which failed to come, the jobbers bought too heavily and are out of the market and whereas the good weather has increased to a great evtent the consumption of gasoline on the improved roads, still the dirt roads at the present time are a sea of mud and often impassable.

Kerosene is in about the same position and is pretty soft. The refiners and jobbers believe it will look up a little in the future as there will be considerable country trade soon when the ground is in br shape for the spring plowing.

Fuel oil is still soft. Neutrals are about holding their own and steam refined is a little firmer than it has been.

Wax continues to be soft.



Above shows the 10 million foot plant of the Hur-Bar Gasoline Company, at Breckenridge, Texas. A single Newton Absorber handles the entire output.

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## LET THE COURTS DECIDE

The opening of the trial of the Government's suit for the cancellation of the Teapot Dome lease has been seized by the sensational newspapers as an opportunity for renewed villification of the oil industry.

It would be well to remember that the case now being heard at Cheyenne is a civil suit, a proceeding in equity. There are no individual defendants.

The title of the suit is: The United States versus the Mammoth Oil Co.; the Sinclair Crude Oil Purchasing Co., and the Sinclair Pipe Line Co. The purpose of the Government is to cancel two contracts made with the Mammoth Oil Co.; the first, the lease for Naval Reserve No. 3, and the second for the construction, without profit, of naval oil storage for war reserves. The two Sinclair Companies are added parties as trespassers through subsidiary agreements.

The cancellation of these contracts is asked by the Government counsel on two pleas; that the lease was awarded without legal authority and that there was a conspiracy to defraud the Government.

In other words, the point at issue in this trial is the validity of the contracts and the power of the Government's officers to execute them, not the wisdom, prudence or merits of the policy adopted for administering or conserving the naval oil reserves.

The charge of conspiracy is not supplemented in the Government's bill by any charge of bribery or by any mention of any money transaction.

The basis of the Government's bill is the assertion that President Harding's executive order delegating the Interior Department as the Navy Department's agent in administering the oil reserves, "while unrepealed and unmodified, is invalid, illegal and of no force or virtue in law, obtained from President Harding by representations from Secretary Fall, said to be false and untrue, in order that Fall might deal with the lands to the advantage of the Mammoth Co." It is further charged the negotiations were private and secret and without advertisement and competitive bidding; that there was a secret stipulation for delivery by the Sinclair interests to the Government of quit claim deeds to outstanding claims on the reserve as a condition to secure the lease.

The defendants deny all charges of fraud, conspiracy or collusion and contend the contracts are legal, authorized by law and made by the Government's representatives with ample power.

They maintain that the consideration to the Government for the lease is fully adequate and proper; that the operations on the lease have been beneficial to the Government and that $5,000,000 has been expended on the lease in reliance on the contract.

The defendants also point out that the contracts were signed by Secretary Denby and that he, not Fall, conducted the preliminary negotiations, and with full legal authority, using the services of the officers of the Navy and officials of the Interior Department.

It is denied that the contract was made by secret and private negotiations, and, while admitting it was awarded without advertisement, it is denied it was awarded without competitive bidding or in contravention of any law on the subject.

There was no preference, it is said, in the matter of securing quit claim deeds which was communicated openly to competitors and was conditional on the award of the lease.

The naval appropriation act of 1920 included, at request of Secretary Daniels, a direction empowering the Secretary of the Navy to "take possession of all naval reserve lands, conserve, develop, use and operate the same at his discretion, directly or by contract, lease or otherwise and use, store, exchange or sell the oil and gas."

On request of Secretary Denby President Harding issued on May 31, 1921, an executive order directing the Department of the Interior to be the active administrative agent for the Navy in administering the oil reserves.

In partially developing the reserves the Navy Department had a three-fold purpose; to conserve the Navy's oil which was subject to drainage from private wells on adjacent lands; to provide war reserves of oil products in storage at strategic ports; and to give the Navy the benefit of the reserves instead of having the proceeds transferred into the general treasury. It was also desired to secure a larger market and higher prices for royalty oil both from the reserve and from Salt Creek and to secure a pipe line connection with eastern ports and markets.

The War Plans Section and Navy General Council had years before approved a national defense project to provide storage for 47,000,000 bbls. of fuel oil for the Navy. Congress failed to supply the funds despite recommendation by Secretary Daniels in 1913. In 1921 the Navy department, unable to get appropriations from Congress, approved the plan for leasing the reserve in order to secure a fuel oil supply at strategic points.

This is a broad outline of the contentions involved in the present trial. It is not asserted that the Government made a bad contract or that the defendants have made improper gains from it. It is recognized that the defendants have fulfilled their part of the contract to the letter. As the case at Cheyenne stands it is simply a question whether the Government representatives had lawful authority to make a contract and, secondarily, if they had not, whether there was conspiracy in granting it. The personal allegations which loomed so largely in the Senate investigation and the public press are to be determined in the District of Columbia proceedings where indictments are being contested.

In matters of this kind public opinion, inflamed by political maneuvers and press sensationalism, is prone to jump to conclusions and make judgments far in advance of the courts. In the present case it has permitted itself to be misled into blanket denunciation of an entire industry because of charges involving a few, charges that have yet to be sustained by any court. Newspaper readers are looking for sensations at Cheyenne rather than justice.

Americans who believe in fair play will resist this impulse and content themselves to await the decision of the courts. The oil industry, which itself has suffered so often from premature popular condemnation, will suspend judgment until the case is heard. The public can afford to do the same.

If there has been wrong doing the courts will determine it. If there has not been, irreparable injustice may be avoided by withholding our verdict until the facts are established in court.

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# Late News From the Fields

### NORTH CENTRAL TEXAS

FORT WORTH, Tex., March 17.—In the Gambrell Pool of northern Young County, 5 miles northwest of the town of Olney, Murchinson and others have just brought in five new wells on their Gambrell lease. The wells are not yet listed as completions. Murchison and his associates discovered this pool a few months ago just after the big development program got under way in the south Archer County districts.

The new wells are the Nos. 14, 15, 16, 17 and 18 on the Gambrell all completed in the rich pay sand between 1,200 and 1,215 feet. No. 14 is estimated to be making 190 bbls., daily; No. 15, 200 bbls.; No. 16 about 175 bbls.; No. 17 200 bbls., and No. 18 240 bbls.

Anderson and others' No. 1 Groves in northern Young is also showing for production. The well got sand at 1,021 to 1,026 feet, which is being tested out for production.

In Archer County, the Humble Oil & Refining Co.'s No. 3 Oil Investment Co. is apparently a small well at a total depth of 1,192 feet. It is estimated to be good for about 10 bbls. The Atlantic Oil Producing Co.'s No. 1-C Parrish is in sand at 1,588 to 1,565 feet and pumped 40 bbls in 12 hours. The United Central Oil Co., according to latest reports from the field was trying to complete its No. 3 Rogers, south Archer County. The well swabbed 240 bbls. from sand at 1,316 to 1,335 feet. The well is an east offset to the No. 2 Stampfli of Daniels and others.

In the south Vernon Field of Wilbarger County, No. 9 Castlebury of the Humble Oil & Refining Co. is reported making an estimated 250 bbls. from the sand at 1,309 feet. The same company's No. 6 on this lease is also showing for a producer. It has been drilled into the sand from 1,289 to 1,311 feet and the hole filled with oil in two hours.

In Wichita County, Howell and others have about completed their No. 3 Burnett. On the pump the well made 80 bbls. from the sand at 1,516 to 1,521 feet. The Texhoma Oil & Refining Co.'s wildcat on the Burnett Ranch southwest of Iowa Park is showing both oil and water. On a 24-hour gauge the well made 25 bbls. of oil and 10 bbls water. Sand was found at 1,638 to 1,640 feet.

No. 1 Stuart of Moore and Snebold in southern Palo Pinto County is showing for production at 1,650 to 1,676 feet. The well will be swabbed this week.

### ACTIVITY IN TENNESSEE

COOKEVILLE, Tenn., March 17.—During the past week, Dafoe and others' discoverers of the Tinsley's Bottom Pool, started three new test wells. In Jackson County, No. 1 Ben Hix is spudding in 1,500 feet southwest of the Swan well which made 25 bbls. at 507 feet, 200 feet below the Pencil Cave; No. 2 on the Draper farm, 800 feet west of No. 1, which started off at 250 bbls. at 390 feet, 90 feet below the shale and No. 3 Hamp Lynn in Clay County, 1,000 feet north of No. 2. This No. 2 Lynn was finished several months ago for a gusher well and is still at this writing making 100 bbls. when opened up. It could, according to reliable sources, easily make 500 bbls. daily if it were opened up for any length of time. No. 1 on the Hamp Lynn is pumping 25 bbls. daily after being in for more than four months.

Dafoe and his associates are also drilling No. 1 Osgathorpe, on Brimstone Creek, 2 miles west of the Lynn tract and at 250 feet gas in large quantities was encountered, causing a delay in drilling it in.

The completion of the Swan and Draper wells created much interest as they were some distance in advance of the producing Lynn farm. The former is three-quarters of a mile south of the Draper and 1 mile south and east of the Lynn, and the latter is three-quarters of a mile east of the Lynn.

It is expected a pipe line will be built to this new area by one of the purchasing agencies in the Kentucky field. A large number of tanks are now brim full of oil and the wells cannot be opened or pumped as much as they should be which is none too good for them. The Dafoes state that the six wells they have finished could produce at least 600 bbls. daily.

As many new people on their way to the Tinsley's Bottom Field in some cases lose several days on the road The Oil and Gas Journal suggests the following route be taken to Tinsley's Bottom via Cookeville:

Parties coming from the West should take the Tennessee Central Railroad, via Nashville, and those from the East via Knoxville and Harriman.

### EAST CENTRAL TEXAS

MEXIA, Tex., March 17.—The production of the Wortham Field at the close of the past week was 75,000 bbls. from 287 wells, but the pipe line runs from the field were about 73,000 bbls. In the month of February, the Wortham Field averaged 72,813 bbls. a day from 273 wells; Powell, 56,105 bbls. from 763 wells; Mexia, 20,649 wells from 472 wells; Richland, 8,732 bbls. from 94 wells and Currie, 1,607 bbls. from 66 wells.

The Rio Bravo Oil Co.'s deep test on the H. & T. C. Railroad right of way was abandoned as dry at 3,895 feet. It was the deepest test in the Wortham Field. Ramsey and Buttram's test on the Munson farm south end of the A. B. Jones 43-acre farm, 1 mile northeast of production in the Wortham Field, found salt water at 3,021 feet and looked like a failure.

Robert Penn's test on the Jennie White farm in the Currie district was finally abandoned as a failure at 3,132 feet, but the Sun Oil Co. has a derrick up in the northwest corner of the 60-acre E. L. Swink farm, one-half mile north and a little east of the Penn test and expects to drill there. The Sun Oil Co. paid $40,000 for the 60 acres while the Penn well was being drilled.

In the Kerens district in eastern Navarro County, Elliott and Nichols' No. 1 Westbrook, on the Horn survey was drilling close to 3,000 feet. This well is about 6 miles southeast of the two Bazette tests drilled by Penn and others and the Humphreys Boyd Oil Co.

### GULF COAST

HOUSTON, Tex., March 17.—In the South Liberty Pool Gulf Production Co.'s No. 1 Vandeveter is flowing 4,000 bbls. at 3,600 feet, the best well to date. It extends the pool a half mile south. The Humble Oil & Refining Co.'s No. 1 Chamblers is flowing 1,800 bbls. at 3,630 feet. The production of the district is now up to 16,000 bbls. The Hofer Oil Co.'s No. 1 Pickett came in flowing 1,500 bbls. 22 gravity oil from 3,689 feet. The field now has storage capacity for 100,000 bbls. with the lines of the Gulf Co., Humble Oil & Refining Co., Sun Oil Co., and Swiftsure Petroleum Co. connected up.

Mills Bennett's No. 1 Brown in the South Liberty Pool is flowing 3,000 bbls. It is located east of the original group of wells. F. M. Long's No. 1 Andrews is flowing 3,000 bbls. also. It is north of the discovery well.

In the Orange Pool, the Gulf Production Co.'s No. 1 Kishi-Lang is flowing 2,500 bbls. at 3,120 feet.

In the Hull Pool, the Gulf Production Co.'s No. 14 Phoenix, a workover, is making 300 bbls. at 2,675 feet.

In the Sour Lake Pool the Sun Oil Co.'s No. 61 B. & E. is a 12-bbl. pumper at 998 feet. The Peveto Oil Co.'s No. 9 fee is a 7-bbl well at 578 feet

At High Island, Galveston County, the Sun Oil Co's No. 11 Cade is credited with 50 bbls. in the shallow sand.

In Guadalupe County, Seights and others at Gibb Springs, south of Seguin, are preparing to test 43 feet of sand 2,120 feet. The test is southwest of the Luling Field. The York Creek Oil Co.'s No. 1 Fulshire 1 mile north of Luling is setting casing at 2,100 feet in the Edward's lime. The Marland Oil & Refining Co.'s No. 1 Binz, northeast part of the Somerset Field is drilling around 2,100 feet. In McMullen County the San-Balt's No. 2 Shriner is at 565 feet. No. 1 is shut down at 1,590 feet. In Atascosa County the Texacosta Oil Co.'s No. 1 Pealer, 35 miles south of Somerset is drilling at 1,700 feet.

Among the wildcats in the Gulf Coast region the Rycade Petroleum Corp.'s No. 2 Nash, off the Wisdom Dome, Fort Bend County, is drilling below 3,980 feet. The same company's No. 1 Nash is idle at 3,000 feet, and No. 1 Meiser is in rock salt at 3,200 feet. The Marland Oil & Refining Co. is rigging at Rabb Lake southwest of Thompson, where operations with the seismograph indicate the presence of salt mass. The Gulf Production Co.'s No. 3 Moore is drilling at 3,710 feet, and the Pathfinders Oil Co.'s No. 2 Davis is below 2,550 feet.

In Brazoria County the Bryan Production Co.'s No. 1 Chester is below 3,100 feet, and the Gulf Production Co.'s No. 1 Burns is at 2,500 feet. Its test at Flagg Pond is around 1,800 feet. Gayle and others' No. 2 Dunsmore is drilling at 400 feet.

At Hockley, in Harris County, The Texas Co.'s No. 1 Warren is below 2,600 feet, and No. 2 Warren is drilling at 2,780 feet. The same company is drilling a formation test east of Green's Bayou.

The deepest wildcat in the Coastal region is the Gulf Coast Development Co.'s No. 3 Vogel in Fort Bend County, drilling below 5,350 feet.

At High Island in Galveston County the Gulf Production Co.'s No. 2 Smith is below 3,400 feet. The Trans Bay Oil Co. is starting No. 1 in the shallow sand there.

In Jefferson County the Port Arthur Development Co. set casing at 2,200 feet in No. 1 in the northern part of the county. Paggi Brothers Oil Co.'s No. 2 Wilson, south of China is drilling at 800 feet and The Texas Co.'s No. 2 Neches Canal is at 600 feet. The Houston Oil Co. has a location for No. 1 Davis at Big Hill.

In Matagorda County the Marland Oil & Refining Co.'s No. 1 Murphy is below 4,750 feet. The Shepherd Mound Oil Co.'s No. 1 Hawkins is at 1,115 feet. In Wharton County the Gulf Production Co.'s No. 3 Felden is below 3,710 feet and No. 1 Halstead is drilling around 1,350 feet. In Jackson County the Jackson County Syndicate test northwest of Edna is below 1,750 feet. In Walker County the Gas Ridge Oil Co. has started No. 2. In Angelina County, Heine and others' No. 2 Henderson near Lufkin is drilling below 1,500 feet.

Seismograph operations are being made in Victoria, Refugio, Wharton and other counties to the southwest.

#### Southwest Fields

In the Luling Field $1.05 has been posted under datte of March 12, as the basis for future contracts. The runs of the Magnolia Petroleum Co., from that field during February were 283,645 bbls. The Story and Le Fevre No. 1 Brewster, 6 miles southeast of Lockhart, is credited with 135 bbls. a day, said to be coming from the Serpentine formation in which production is found in the Thrall Field. Operators argue this is not a favorable indication, pointing to the history of the Thrall Field, as justification for their lack of confidence in the Serpentine formation. The United North & South Co.'s No. 1 Callahan, 5 miles northeast of the Luling Field is pumping 10 bbls. from the Edwards lime. The development around the Brewster lease is being held up on account of a lack of water for drilling purposes. A line will be laid from the San Marcos River. Locations have been made by the Evans Oil Co., Gulf Production Co., Armstrong Brothers and the Grayburg Oil Co.

In Fayette County, the Dixie Oil Co. abandoned No. 1 Manton, 2½ miles west of La Grange at 2,600 feet.

The scarcity of water is proving a serious proposition in all the southwest fields and among the wildcatters. Few rigs are running in either Jim Hogg County or the Webb County Pool, called the Laredo district. In Jim Hogg County Kisselman and St. Alban's No. 4 Holbein ranch is pumping 500 bbls. at 2,020 feet. Their No. 5 Holbein is flowing 500 bbls. at 2,323 feet. The Texo Oil Co.'s No. 3 Lopez, north of the Henne-Winch and Farris group of producers, is a 45,000,000-foot gasser at 1,990 feet. Henne, Winch and Farris' No. 7 Holbein is drilling, casing has been set in No. 9 ready to drill in. A derrick is up for No. 8.

In Webb County, the Caroline Tex Co.'s No. 6 is a salt water hole. The United States Gas & Oil Co.'s No. 1 took a core at 2,070 feet, and is setting casing to make a test of the sand. The San-Tex No. 1 is rigging.

Producers in the Minerva-Rockdale shallow sand field in Milam County are reported contracting with the Southern Pipe Line Co., of New Braunfels for 400 bbls. per day on the basis of Mid-Continent quotations on crude. The contracts are for three years. The Owens Refining Co., with a plant at Minerva is now taking the production of the field.

### OKLAHOMA

In the Cromwell Field, the Waite Phillips Co. and Mid-Continent Petroleum Corp.'s No. 1 Brown, SE cor. NE SW, Section 33-11-8, topped sand at 3,322 feet, and at 3,385 feet was making 35,000,000 feet of gas and 10 bbls. of oil. The oil was first encountered at 3,366 feet. The Mutual Oil Co.'s No. 2 Pierce, C SE SW SE, Section 33-11-8, topped sand at 3,318 feet, and drilling at 3,348 feet was making 20,000,000 feet of dry gas. Production of the Cromwell Field on March 16 was 30,400 bbls.

The Mid-Continent Petroleum Corp.'s No. 12, NW cor. NE NW, Section 3-9-9, in the Papoose Field, topped sand at 3,298 feet, and drilling at 3,307 feet was flowing 50 bbls. an hour. The same company's No. 10, NW cor. Section 3-9-9, topped sand at 3,275 feet, and was making 35 bbls. an hour drilling at 3,310 feet. Production of the Papoose Field on March 16 was 28,496 bbls.

North of the Papoose Field, the Mid-Continent Petroleum Corp.'s No. 1, NE cor. Section 21-10-9, was making 34,000,000 feet of highly saturated gas from sand at 3,288-3,306 feet.

Hall & Donnelly's No. 1 Thompson, NE cor. Section 19-14-10, Creek County, was swabbing and flowing 180 bbls. preparatory to being shot.

Production of the deep sand in the Tonkawa Field is continuing its rapid decline, and on March 16 was 56,952 bbls.

## GOVERNMENT LOSES TEAPOT CASE POINT

CHEYENNE, Wyo., March 17.—Probably the pivot on which the Teapot Dome lease annulment suit will turn was the ruling barring the evidence regarding Secretary Falls' accounts, handed down by Federal Judge T. Blake Kennedy Monday. Judge Kennedy in his decision held that as the matter stands, it is manifestly incompetent and will be barred until such time as it is shown to be competent.

Judge Kennedy's ruling left the Government's case up in the air so completely that a recess of 10 minutes was allowed to permit Owen Roberts and Atlee Pomerene, Government counsel, to get their remaining witnesses in shape.

After recess, Attorney Roberts announced he would reverse the procedure previously followed in an attempt to show the alleged passage of bonds to Fall instead of from the former secretary. The court before had warned Roberts that he was approaching the matter from the "backdoor."

In a lengthy prelude to his decision, the Federal Judge quoted from rulings on similar procedure made by the eighth, second and fourth Federal Circuit Courts of Appeals, laying particular stress on precedent upheld by the eighth circuit under which jurisdiction the Cheyenne court lies.

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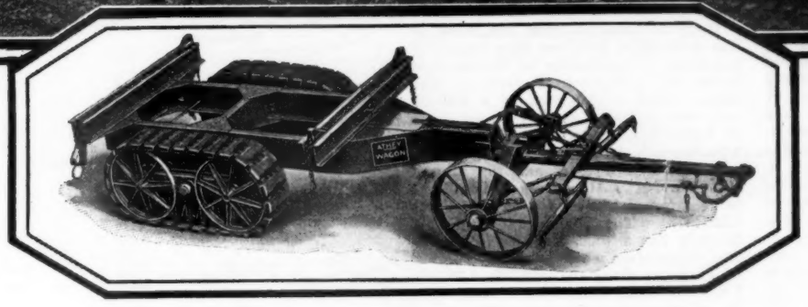


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# North-Central Texas Field

By George R. Kelley

**Illinda Oil Co. gets 2,000-bbl. well in Stephens County. White Brothers have two wells making 1,400 and 750 bbls. in Archer County. North Young and South Archer Counties continue to be scene of extensive activity with much new production resulting. Output of territory shows substantial increase.**

FORT WORTH, Tex., March 16.—The completion of a 2,000-bbl. well in Stephens County and a continuation of activities in the North Young and South Archer districts were features of the week in the North Central Texas oil territory. The big producer in Stephens County was drilled by the Illinda Oil Co. on a lease belonging to the Walker-Caldwell interests. The well is producing from the gray lime formation at a depth slightly less than 3,300 feet, about the customary depth for that district. The well is located southeast of the town of Breckenridge and just south of production on the Keel farm, which is obtained at about the same depth and in about the same proportions as in the Illinda Oil Co.'s new well.

South Archer and North Young counties, two districts that are so closely connected that they might be considered as one, turned in a number of new wells last week and also added a substantial increase in new production. The two big Archer County wells of White Brothers on the Kunkle lease which were reported last week as near completions, are now classed as completions, one of them making 1,400 bbls. daily and the other maintaining a steady flow of 750 bbls. A number of north Young County wells that were reported as new producers last week are also classed among the late completions this week.

### Week's Completion Report

This week's completion report shows a total of 69 for the entire territory as against 68 completions last week. Of this week's completions, 43 were producers and 26 were dry holes, there being no gas wells reported. New production amounted to 7,194 bbls., more than 50 per cent of which came from Archer County alone. New production last week from 39 oil producers amounted to 4,030 bbls.

Wichita County reported a total of 12 completions this week, 5 of which were producers and 7 dry holes. New production for the county was 420 bbls. Archer County once more led in the number of completions with a total of 28, of which 21 were oil wells and 7 were dry holes. The 28 new oil wells accounted for a total of 4,145 bbls. of new production, an average per well of a little more than 197 bbls.

Young County reported 10 new completions, 4 dry holes and 6 new producers with a total new production amounting to 1,422 bbls., an average per well of 237 bbls. Stephens County had two dry holes and one well making 40 bbls. Eastland County reported only two completions both of which were dry holes. The South Vernon Field in Wilbarger County had five completions, four of which were producers making a total of 505 bbls. of new production. The field reported one failure.

The wildcat districts accounted for nine completions, six producers and three failures. The six producers had a flush output of 662 bbls.

### Production Showed Gain

Production for the week ended March 12, shows a gain of 3,716 bbls. over that of the previous week. Only two important pools in the territory registered losses. They were Ranger and the Stephens County Field. Burkburnett, Electra, Archer County and the miscellaneous districts all registered fairly good gains. The total for the week is 139,296 bbls., as compared with a total of 135,580 bbls. the previous week.

Production in Burkburnett for the week showed a gain of 727 bbls. Electra registered a gain of 681 bbls., and the increase in Archer County amounted to 1,810 bbls. The miscellaneous districts had an increase of 744 bbls. Stephens County declined 193 bbls., and the Ranger Pool lost 53 bbls.

In the South Archer Field, White Brothers have another big well on their Kunkel lease, their No. 4 which is not yet completed but which is estimated to be making 800 bbls. daily from sand at 1,136 to 1,157 feet. In the same district, Harvey and others have drilled their No. 2 Kunkel, an old producer, 4 feet deeper to a total depth of 1,152 feet and the well is now swabbing at the rate of 865 bbls.

There are several other new wells in this field which have not been completed but which are producing oil. Among them is the No. 3 Hayter of Grisham and others which is estimated as a 200-bbl. well with 18 feet of sand at a total depth of 1,328 feet. Harris and others' No. 1-B Stampfli is making about 60 bbls. at 1,363 to 1,371 feet and the Mutual Oil Co.'s No. 7 Harmel is estimated to be good for 65 bbls., 7 feet in the pay at 1,237 feet. The Shamrock Oil Co. apparently has a good producer in its No. 12-C Richardson which swabbed 125 bbls. in 14 hours from the sand at 1,306 to 1,317 feet. The Underwood Drilling Co.'s No. 4 Rogers is estimated at 65 bbls. at 1,271 to 1,282 feet.

### Other New Producers

In Young County, Murchison and others' Nos. 4, 5 and 6 on their Schlegel lease are all new producers, all completed at the regulation depth for that district. The No. 4 is estimated at 200 bbls., No. 5 at 150 bbls., and No. 6 at 350 bbls. The same operators have a new well on their Gambrell lease, No. 13, which is reported swabbing 125 bbls. at 1,213 to 1,219 feet.

The Texas Co.'s No. 5 Gambrell, also in this pool, is flowing and swabbing at the rate of 300 bbls. daily from sand at 1,192 to 1,222 feet and the Texhoma Oil & Refining Co.'s No. 5 Gambrell swabbed 400 bbls. in 18 hours from the sand topped at 1,221 feet and drilled into 6 feet. The No. 1 Haygood of Lee Wilson in north Young, which was reported a new producer last week has increased its output until it is now flowing and swabbing at the rate of 700 bbls.

In the South Vernon Pool, the Humble Oil & Refining Co. has two good producers on its Castlebury lease, Nos. 8 and 9. No. 8 is swabbing 200 bbls. from 1,290 to 1,312 feet and No. 9 is flowing and swabbing 350 bbls. from 1,286 to 1,309 feet.

In the Electra Field of Wichita County, the Texhoma Oil & Refining Co. has a well estimated at 45 bbls. in its No. 1-E Burnett. It is producing from sand at 1,638 to 1,640 feet.

In the Nocona district of northern Montague County, No. 1 Jones of the Humphreys-Boyd Oil Co. is showing oil at 830 to 842 feet, the oil being 30 to 31 gravity, about 8to 10 degrees lighter than other production in that territory.

In Brown County, McMurray and others have a well estimated at 50 bbls. in their No. 3 Newtown, which is producing from sand at 1,258 to 1,277 feet.

In Reagan County, the Texon Oil & Land Co.'s No. 7 Group 1 University has a showing of oil in a sandy shale formation at 2,475 to 2,480 feet. The oil rose about 1,500 feet in the hole. No. 19 of the Big Lake Oil Co. is also showing for a producer at the customary depth. Swabbing failed to lower the column of oil in the hole, though there is much paraffin which is retarding the work of bringing the well in.

Careful handling may yet make a good producer out of the Waggoner wildcat of the Noble Oil Co., southeast of the old Sigler well in Wilbarger County. With packer and tubing set the well made 90 bbls. in 12 hours.

### PRODUCTION REPORT
**Week Endng March 12, 1925**

| | | |
|---|---|---|
| **Burkburnett** | | |
| Gulf Production Co. | 680 | |
| Humble Oil & Refining Co. | 400 | |
| Magnolia Petroleum Co. | 2,750 | |
| Panhandle Refining Co. | 327 | |
| Prairie Oil & Gas Co. | 10 | |
| Sinclair Oil & Gas Co. | 40 | |
| Sun Oil Co. | 130 | |
| The Texas Co. | 505 | |
| Texhoma Oil & Refining Co. | 425 | |
| Miscellaneous | 10,345 | 15,612 |
| **Electra** | | |
| Empire Gas & Fuel Co. | 1,060 | |
| Gulf Production Co. | 955 | |
| Humble Oil & Refining | 110 | |
| Magnolia Petroleum Co. | 4,000 | |
| Panhandle Refining Co. | 61 | |
| The Texas Co. | 3,676 | |
| Texhoma Oil & Refining Co. | 1,710 | |
| Miscellaneous | 5,990 | 17,561 |
| **Iowa Park** | | |
| Gulf Production Co | 40 | |
| Humble Oil & Refining Co. | 10 | |
| Magnolia Petroleum Co. | 600 | |
| Panhandle Refining Co. | 53 | |
| Texhoma Oil & Refining Co. | 75 | |
| Miscellaneous | 3,115 | 3,893 |
| **Petrolia** | | |
| Gulf Production Co. | 42 | |
| Magnolia Petroleum Co. | 5 | |
| The Texas Co. | 65 | |
| Miscellaneous | 265 | 377 |
| **Archer County** | | |
| Empire Gas & Fuel Co. | 542 | |
| Gulf Production Co. | 3,865 | |
| Humble Oil & Refining Co. | 505 | |
| Magnolia Petroleum Co. | 760 | |
| Panhandle Refining Co. | 270 | |
| Prairie Oil & Gas Co. | 1,020 | |
| Sun Oil Co. | 553 | |
| The Texas Co. | 2,430 | |
| Texhoma Oil & Refining Co. | 2,800 | |
| Miscellaneous | 28,545 | 41,290 |
| **Stephens County** | | |
| Empire Gas & Fuel Co. | 85 | |
| Gulf Production Co. | 1,275 | |
| Humble Oil & Refining Co. | 905 | |
| Magnolia Petroleum Co. | 680 | |
| Mid-Kansas Oil & Gas Co. | 1,865 | |
| Prairie Oil & Gas Co. | 807 | |
| Sinclair Oil & Gas Co. | 130 | |
| Sun Oil Co. | 295 | |
| The Texas Co. | 1,700 | |
| Texas Pacific Coal & Oil Co. | 955 | |
| Miscellaneous | 6,825 | 15,522 |
| **Ranger** | | |
| Gulf Production Co. | 327 | |
| Humble Oil & Refining Co. | 50 | |
| Magnolia Petroleum Co. | 610 | |
| Mid-Kansas Oil & Gas Co. | 225 | |
| Panhandle Refining Co. | 305 | |
| Prairie Oil & Gas Co. | 480 | |
| Sinclair Oil & Gas Co. | 425 | |
| The Texas Co. | 255 | |
| Texas Pacific Coal & Oil Co. | 880 | |
| Miscellaneous | 2,820 | 6,377 |
| **Mura** | | |
| Empire Gas & Fuel Co. | 55 | |
| The Texas Co. | 120 | |
| Texhoma Oil & Refining Co. | 130 | |
| Miscellaneous | 2,175 | 2,480 |
| **Young** | | |
| Gulf Production Co. | 327 | |
| Humble Oil & Refining Co. | 110 | |
| Panhandle Refining Co. | 30 | |
| Prairie Oil & Gas Co. | 12 | |
| Sinclair Oil & Gas Co. | 460 | |
| The Texas Co | 1,150 | |
| Texhoma Oil & Refining Co. | 615 | |
| Miscellaneous | 4,206 | 6,810 |
| **Eastland-Comanche** | | |
| Humble Oil & Refining Co. | 310 | |
| Magnolia Petroleum Co. | 1,140 | |
| Mid-Kansas Oil & Gas Co. | 225 | |
| Prairie Oil & Gas Co. | 110 | |
| Sinclair Oil & Gas Co. | 30 | |
| The Texas Co. | 150 | |
| Texas Pacific Coal & Oil Co. | 115 | |
| Miscellaneous | 1,975 | 3,955 |
| **Other Districts** | | |
| Wilbarger County | 5,174 | |
| Montague County | 110 | |
| Jack County | 30 | |
| Palo Pinto County | 635 | |
| Brown County | 1,125 | |
| Coleman County | 85 | |
| Callahan County | 2,965 | |
| Mitchell County | 1,840 | |
| Reagan County | 11,345 | |
| Scurry County | 45 | |
| Carson County | 2,105 | |
| Hutchinson County | 125 | |
| Wheeler County | 85 | |
| Gray County | 50 | 25,419 |
| Total this week | | 139,296 |
| Total last week | | 135,580 |
| Gain | | 3,716 |

### Completions Wichita County

Simms Oil Co.'s No. 2 Sutton, dry at 1,921 feet; Texhoma Oil & Refining Co.'s No. 1 Bailey, dry at 1,737 feet; Art and others' No. 2 Terhune, dry at 699 feet; Baldwin and others' No. 2 Fisher, dry at 1,570 feet; Fisher-Jennings Oil Co.'s No. 1 Burnett, 45 bbls. at 1,467 feet; Hawkins and others' No. 4 Watkins, 100 bbls. at 1,766 feet; Parker Brothers' No. 2 Love, dry at 1,831 feet; Perkins and others' No. 13 Burnett, 100 bbls. at 1,819 feet; Petroleum Producers Co.'s No. 3 Allen and Kemp, 150 bbls. at 1,404 feet; Ryan Petroleum Co.'s No. 27 Nance, 25 bbls. at 1,692 feet; The Texas Co. and others' No. 298 Waggoner, dry at 2,200 feet; Try Mutual Oil & Gas Co.'s 7 Ward and Todd, dry at 1,945 feet.

### Archer County

Bridwell and others' No. 6 Wilson, 35 bbls. at 1,422 feet; Howell and others' No. 1 Wilson, dry at 1,717 feet; Lincoln and others' No. 3 Oil Investment Co. dry at 1,219 feet; Prairie Oil & Gas Co.'s No. 31-D Wilson, 10 bbls. at 1,580 feet; Shappell Oil Co.'s No. 16 Jackson, 200 bbls. at 1,799 feet; Gulf Production Co.'s No. 10 Nichols, 80 bbls. at 1,551 feet; same company's No. 2 Wilson, 40 bbls. at 1,593 feet; Staley and others' No. 9-C Wilson, 30 bbls. at 1,419 feet; Stidham and others' No. 13 White, 75 bbls. at 1,617 feet; Atlantic Oil Producing Co.'s No. 2 Ward, dry at 1,170 feet; Davis-Hart Co.'s No. 3 Roach and Junker, dry at 1,301 feet; Dee Brothers' No. 1 Sadau, dry at 1,500 feet; Humble Oil & Refining Co.'s No. 2 Hausler, 15 bbls. at 1,136 feet; same company's No. 2 Hayter, 5 bbls. at 1,362 feet; same company's No. 4 Hayter, dry at 1,357 feet; Jones and others' No. 1 Cernosek, dry at 1,501 feet; Gulf Production Co.'s No. 9 Monohan, 150 bbls. at 1,291 feet; No. 3 Rogers, 25 bbls. at 1,315 feet; No. 1-B Rogers, 130 bbls. at 1,385 feet; No. 3 Stampfli, 85 bbls. at 1,345 feet; Maer and others' No. 4 Monohan, 115 bbls. at 1,324 feet; Shamrock Oil Co.'s No. 14-B Richardson, 225 bbls. at 1,290 feet; Shaw and others' No. 3-B Hayter, 50 bbls. at 1,333 feet; No. 6 Hausler, 60 bbls. at 1,156 feet; No. 2 Kunkel, 400 bbls. at 1,155 feet; Sun Oil Co.'s No. 2 Kunkel, 475 bbls. at 1,150 feet; White Brothers' No. 2 Kunkel, 1,400 bbls. at 1,152 feet; No. 3 Kunkel, 750 bbls. at 1,155 feet.

### Young County

Camp Oil & Gas Co.'s No. 1-A Campbell, dry at 945 feet; Hill and others' No. 1 Stewart, dry at 1,121 feet; Humble Oil & Refining Co.'s No. 1 Schlegel, 112 bbls. oil and 150 bbls. water at 1,198 feet; Mooers and others' No. 1 Ickert, 70 bbls. at 1,251 feet; Murchison and others' No. 11 Gambrell, 260 bbls. at 1,213 feet; O'Neall and others' No. 1 Bullock, dry at 1,303 feet; No. 1 Clark, dry at 1,305 feet; Simms Oil Co.'s No. 6 Carpenter, 420 bbls. at 1,038 feet; The Texas Co.'s No. 2 Gambrell, 210 bbls. at 1,200 feet; No. 8 Gambrell, 350 bbls. at 1,229 feet

### Stephens County

Mid-Kansas Oil & Gas Co.'s No. 11 Tullos, dry at 4,170 feet; Magnolia Petroleum Co.'s No. 8 Brown, dry at 3,190

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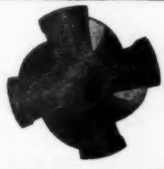

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feet; Texas Pacific Coal & Oil Co.'s No. 50 Binney, 40 bbls. at 1,719 feet.

**Eastland County**

Dorothy Oil Co's No. 1 Downtain, dry at 1,645 feet; States Oil Corp.'s No. 2 Harbin, dry at 4,080 feet.

**Wilbarger County**

Levy and others' No. 1 Waggoner, pumping 160 bbls. oil at 1,440 feet; Magnolia Petroleum Co.'s No. 66 fee, 55 bbls. at 1,678 feet; McComey and others' No. 4 Richardson, 100 bbls. at 1,335 feet; No. 2 Stephens, 200 bbls. at 1,315 feet; The Texas Co. and others' No. 297 Waggoner dry at 1,715 feet.

**Carson County**

Skelly Oil Co.'s No. 2 Burnett, 275 bbls. at 2,991 feet.

**Gray County**

Wilcox Oil & Gas Co.'s No. 1 Worley and Reynolds, 50 bbls. at 3,029 feet.

**Clay County**

Cumley and others' No. 3 Stine, dry at 1,802 feet.

**Montague County**

Lesh and others' No. 1 Salmon, 12 bbls. at 944 feet; Texhoma Oil & Gas Co.'s No. 2 Howard, 90 bbls. at 1,002 feet.

**Throckmorton County**

Plains Production Co.'s No. 1 Erwin, dry at 1,535 feet.

**Palo Pinto County**

Hughes and others' No. 1 Belding, dry at 4,007 feet.

**Brown County**

Gillman and others' No. 2 Moore, 60 bbls. at 1,242 feet.

**Reagan County**

Texon Oil & Gas Co.'s No. 4 Group 1 University, 175 bbls. at 3,146 feet.

**Wichita County Drilling**

Atlantic Oil Production Co.'s No. 11 Overby is underreaming; Bain and others' No. 2 Margold, setting casing at 1,830 feet; Burkland and others' No. 4 Burnett, drilling at 900 feet; Empire Gas & Fuel Co.'s No. 7 Pierce, at 740 feet; Gardner and others' No. 5 Watkins, spudding; Hammond and others' No. 1 Waggoner, drilling at 1,100 feet; Howell and others' No. 1 Burnett, spudding; Kruger and others' No. 2 Allen & Kemp, spudding; Magnolia Petroleum Co.'s No. 9 Abernathy, underreaming; No. 12 Douglas, underreaming; No. 67 Honaker, drilling at 900 feet; No. 16 Maer, at 800 feet; No. 18 Maer has a show of oil at 884 feet; No. 42 Rio Bravo, underreaming; No. 43 Rio Bravo, drilling at 1,435 feet; O'Neil and others' No. 14 Rio Bravo, at 1,140 feet; Perkins and others' No. 14 Burnett, at 1,425 feet; Petroleum Production Co.'s No. 4 Allen & Kemp, spudding; No. 13 Maer, spudding; Ryan Petroleum Co.'s No. 1 Henson, drilling at 1,010 feet; No. 28 Nance, at 1,115 feet; Section 2 Oil Co.'s No. 7 Burnett, drilling at 1,140 feet; Texhoma Oil & Refining Co.'s No. 15 Burnett, at 1,550 feet; No. 1 Throckmorton, plugging back to 1,794 feet; Waller and others' No. 1 Waller, drilling at 1,390 feet.

**Wilbarger County Drilling**

Andrade and others' No. 1 Archer, is spudding; Atlantic Oil Production Co.'s No. 1 Parker is underreaming; No. 1 Zipperle, drilling at 850 feet; Atlantic Oil Production Co.'s No. 2 Zipperle, at 650 feet; Barkley and others' No. 1 Stephens, preparing to test a sand at 1,326 feet; No. 2 Stephens has a show of oil at 550 feet; Bridwell and others' No. 5 Dill, drilling at 1,685 feet; No. 8 Stephens, at 830 feet; No. 7 Stephens, at 1,515 feet; No. 1 Waggoner, at 1,050 feet; Texas Pacific Coal & Oil Co.'s No. 1 Waggoner, underreaming; Burton and others' No. 1 Castlebury, cleaning out at 1,445 feet; No. 1 Waggoner, underreaming; Continental Oil Co.'s No. 2 Zipperle, drilling at 300 feet; No. 3 Zipperle, setting casing at 995 feet; Wood and others' No. 1 George, drilling at 1,140 feet; Hamilton and others' No. 1 Neal, at 1,640 feet; Hoffer Oil Corp.'s No. 1 Waggoner, at 1,601 feet; Humble Oil & Refining Co.'s No. 3 Castlebury, at 1,975 feet; No. 6 Castlebury, at 1,270 feet; Humble Oil & Refining Co.'s No. 10 Castlebury, at 1,140 feet; No. 1-C Waggoner, at 1,985 feet; Key and others' No. 1 Waggoner has a show of oil at 1,370 feet; Knight and others' No. 1 Waggoner, drilling at 1,150 feet; Kolp and others' No. 3 Waggoner, at 1,267 feet; No. 4 Waggoner, at 900 feet; Levy anl others' No. 2 Waggoner, spudding; Levy and others' No. 1 Wheeler, fishing at 1,615 feet; Little Oil Co.'s No. 1 Youngblood, drilling at 2,100 feet; McCamey and others' No. 3 Richardson, at 1,244 feet; No. 5 Richardson, spudding; No. 5 Stephens, drilling at 1,250 feet; No. 6 Stephens, at 500 feet; No. 7 Stephens, at 650 feet; No. 8 Stephens, at 920 feet; No. 9 Stephens, at 1,070 feet; Magnolia Petroleum Co.'s No. 67 fee, at 825 feet; No. 47 Sumner, rigging up to pump; Murchison and others' No. 1 Waggoner, spudding; Oxford Oil Co.'s No. 2 Waggoner, drilling at 1,317 feet; Priddy and others' No. 1 Castlebury, pulling casing; Ray and others' No. 3 Bond, rigged to pump; No. 7 Bond, drilling at 1,560 feet; No. 8 Bond, at 725 feet; Ruff and others' No. 1 Waggoner, at 2,000 feet; Shipley and others' No. 1 Murphy, underreaming; Smith and others' No. 1 Castlebury, drilling at 600 feet; South Vernon Oil Co.'s No. 3 Stephens, at 1,410 feet; No. 6 Stephens, at 2,063 feet; No. 7 Stephens, at 2,033 feet; No. 9 Stephens, at 1,958 feet; No. 14 Stephens, at 900 feet; Staley and others' No. 3 Stephens, rigging to pump at 1,314 feet; The Texas Co.'s No. 1-B Castlebury, underreaming; No. 202 Waggoner, drilling at 2,240 feet; No. 299 Waggoner, at 400 feet; Texhoma Oil & Refining Co.'s No. 1 Bettes at 1,760 feet; No. 1 Thomas, setting casing at 1,080 feet; Wells and others' No. 6 Waggoner, spudding; Winnipeg Oil Co.'s No. 5 Bond, rigging to pump; No. 6 Bond, drilling at 1,350 feet; Wood and others' No. 1 Streit, at 2,095 feet.

**Archer County Drilling**

Humble Oil & Refining Co.'s No. 3 Orton, drilling at 1,498 feet; Panhandle Refining Co.'s No. 4 Orton, at 1,300 feet; Shappell Oil Co.'s No. 17 Jackson, at 890 feet; Barkley and others' No. 6 Wilson, at 430 feet; Bridwell and others' No. 7 Wilson, at 945 feet; Boggs and others' No. 1 Wilson, at 1,460 feet; Burns and others' No. 1 Wilson, at 730 feet; Carter and others' No. 6-C White, at 1,570 feet; No. 7-C White, rigged up to pump; Dale Oil Corp.'s No. 10 Wilmot, drilling at 300 feet; Empire Gas & Fuel Co.'s No. 3-A Wilson, at 280 feet; Franklin and others' No. 4-B Parrish, rigging to pump; Humble Oil & Refining Co.'s No. 3 Oil Investment Co., swabbing at 1,192 feet; Jetter and others' No. 3 White, fishing at 200 feet; Oasis Oil Co.'s No. 1 Wilson is spudding; Phillips and others' No. 1 Wilson, underreaming; Phillips Petroleum Co.'s No. 16 White, has oil sand at 1,502 feet; No. 22-E White has oil sand at 1,600 feet; Prairie Oil & Gas Co.'s No. 32-D Wilson, drilling at 1,370 feet; No. 34 Wilson, at 460 feet; Riner and others' No. 7-B Wilson, at 1,600 feet; Saunders and others' No. 1 Sprague, at 1,520 feet; Simms Oil Co.'s No. 7 Parrish, at 1,110 feet; Sixty Six Oil Co.'s No. 3-C Parrish, at 300 feet; Staley and others' No. 10-C Wilson, at 1,265 feet; The Texas Co.'s No. 1-B Pease, at 1,646 feet; Thomas and others' No. 1 Parmenter, at 280 feet; Underwood Drilling Co.'s No. 1 Nichols, at 1,520 feet; Archer Oil Co.'s No. 1 Coffield has oil show at 1,385 feet; Comac Oil Co.'s No. 1 Seay, drilling at 380 feet; green and others' No. 4 Abercrombie & Taylor, at 1,375 feet; Rayzor and others' No. 1 Porter, underreaming; Richardson Brothers' No. 1 Boone, drilling at 1,285 feet; Ross and others' No. 1 Seay, underreaming; Southern Exploration Co.'s No. 1 Pace, at 1,510 feet; Sun Oil Co.'s No. 9 Farmer, at 380 feet; Young and others' No. 1 Abercrombie, at 500 feet.

**Stephens County Drilling**

Mid-Kansas Oil & Gas Co.'s No. 13 Hill, account 1, spudding; No. 15 Hill, drilling at 2,425 feet; Pender Production Co.'s No. 5 Keel, at 1,400 feet; Rosell Production Co.'s No. 2-B Brown, setting casing at 2,525 feet; Snowden & McSweeney's No. 5 Higginbotham, drilling by tools at 3,175 feet; Sun Oil Co.'s No. 5 Stoker, drilling by casing at 2,275 feet; Texas Consolidated Oil Co.'s No. 6 Martin, at 3,325 feet; Brown & Co.'s No. 2 Akin, drilling at 1,612 feet; Buckeye Pipe & Supply Co.'s No. 1 Pizah Church Lot, at 275 feet; Carter and others' No. 2 Langford, spudding; Head and others' No. 1 Post, fishing at 3,285 feet; Hughes and others' No. 4 Gandy, drilling at 2,860 feet; Knox and others' No. 1 Flournoy, fishing at 3,870 feet; Landreth Production Co.'s No. 2 Grantz, drilling at 1,206 feet; Magnolia Petroleum Co.'s No. 4 Jones, at 1,760 feet; No. 5 Walker, at 600 feet; Mook Texas Oil Co.'s No. 2 Head, drilling in black lime at 3,360 feet; Pender Production Co.'s No. 1 Elder, drilling at 1,010 feet; Price and others' No. 5 Bruce, at 2,012 feet; Simms Oil Co.'s No. 4 Decker, at 2,060 feet; same company's No. 6-A Jackson, fishing at 3,065 feet; States Oil Corp.'s No. 2 Boles, drilling at 3,423 feet; Sun Oil Co.'s No. 6 Stoker at 3,950 feet; Texas Fidelity Oil Corp.'s No. 8 Gardenshire, spudding; Texas Pacific Coal & Oil Co.'s No. 6 Adams, drilling at 150 feet; No. 49 Binner, putting on pump; No. 2 Hand, account 2, pulling casing; No. 2 Pierce has 2,000,000 feet of gas at 1,971 feet; No. 1 Veale, fishing at 4,190 feet; The Texas Co.'s No. 41-A Parks, drilling at 1,245 feet; No. 42-A Parks, at 750 feet; Thompson and others' No. 3 Williams, fishing at 1,500 feet; Thompson Oil Corp.'s No. 4 Williams, drilling at 1,700 feet; Williams and others' No. 10 Rosenquest, cleaning out at 1,855 feet.

**Eastland County Drilling**

Allen and others' No. 1 Elliott, drilling at 1,150 feet; Calloway and others' No. 1 Wilson, at 550 feet; Knox-Lewis Oil Co.'s No. 1 Cooksey, at 1,260 feet; McLester Oil Co.'s No. 1 Allen, at 2,350 feet; Magnolia Petroleum Co.'s No. 1 Allman, at 850 feet; No. 8 Hankins, at 2,715 feet; Mook Texas Oil Co.'s No. 1 Williamson, spudding; Parsons and others' No. 1 Jones, drilling at 950 feet; Porter Development Co.'s No. 1 Downtain, at 650 feet; Reclamation Oil Co.'s No. 6 Bond, spudding a new hole; Rosell Production Co.'s No. 1 Rice, drilling at 900 feet; States Oil Corp.'s No. 5 Homer, spudding; No. 15 Harrell, drilling at 1,300 feet; No. 4 Summerall, at 800 feet; Adams and others' No. 1 Donovan, at 800 feet; No. 1 League, at 200 feet; Ardizone and others' No. 9 Kincaid, deepening from 3,206 feet; Burkett and others' No. 1 Robinson, drilling at 527 feet; Hart Oil Corp.'s No. 1 Amis, spudding a new hole; Kimmell and others' No. 1 Lamb, drilling at 2,734 feet; Riley and others' No. 1 McClelland, drilling out a cement plug at 3,598 feet.

**Brown County Drilling**

Honea and others' No. 2 DeBusk, fishing at 2,345 feet; Lowe and others' No. 1 Williams, spudding; Mahlstedt Mook Oil Co.'s No. 5 Newton, drilling at 455 feet; Thomas and others' No. 1 Bohara, has water trouble at 2,410 feet; Williams and others' No. 1 Newton, drilling at 1,220 feet.

**Reagan County Drilling**

Big Lake Oil Co.'s No. 14 University, drilling at 2,945 feet; No. 16 University, underreaming; No. 18 University, drilling at 2,540 feet; No. 19 University, at 1,440 feet; No. 20 University, setting casing at 1,037 feet; No. 21 University, drilling at 965 feet; No. 22 University, fishing at 560 feet; No. 23 University, drilling at 925 feet; No. 24 University, at 1,583 feet; No. 25 University, setting casing at 705 feet; California Co.'s No. 1 University, fishing at 3,480 feet; Cogdell and others' No. 1 University, fishing at 360 feet; Grayson and others' No. 1 University, repairing rig at 3,212 feet; Hoffman and others' No. 1 University, drilling at 1,950 feet; McCamey and others' No. 1 University, spudding; Pilot Oil Corp.'s No. 1 University, drilling at 1,645 feet; Simms Oil Co.'s No. 1 Sawyer, at 3,295 feet; Texon Oil & Land Co.'s No. 2, Group 2, University, at 525 feet; No. 5 University, Group 1, at 970 feet; No. 7 University, Group 1, reaming; No. 9 University, Group 1, drilling at 1,380 feet; Wrightsman and others' No. 1 Ingham, at 2,750 feet.

**Wildcats Drilling**

Roberts County: Eagle and others' No. 1 Ledrick, drilling at 1,680 feet.

Hutchinson County: Barnum and others' No. 1 Johnson, lubricating to kill gas at 2,961 feet; Dixon Creek Oil Co.'s No. 1 Smith, fighting gas at 2,940 feet; Douglas Oil Co.'s No. 1 Whittenburg, swabbing oil at 3,062 feet; New Domain Oil Co.'s No. 1 Barton, fishing at 2,690 feet; Amarillo Oil Co.'s No. 2-B Bivens, drilling at 2,727 feet; Prairie Oil & Gas Co.'s No. 1 Shaw, at 3,253 feet; Twin Six Oil Co.'s No. 1 Kingsland, spraying oil at 2,988 feet; Tex-O Oil Co.'s No. 1 Johnson, making gas at 1,175 feet; Western Enterprise Oil & Gas Co.'s No. 1 Smith, rigging to pump at 3,105 feet; Wilson and others' No. 1 Whittenburg, making oil at 2,905 feet.

Moore County: Amarillo Oil Co.'s No. 1-A Masterson, setting casing at 2,074 feet.

Potter County: Amarillo Oil Co.'s No. 1 Warrick, has 25,000,000 feet of gas at 2,883 feet; No. 1 Bush, fighting gas at 3,495 feet; same company's No. 3-A Bivins, drilling at 2,425 feet.

Carson County: Culbertson Brothers' No. 1 Armstrong, plugging back to 3,160 feet; Olson Brothers' No. 1 Burnett, drilling at 2,530 feet; Silk and others' No. 3-A Burnett, showing oil at 3,108 feet; The Texas Co.'s No. 5 Burnett, setting casing at 2,810 feet; No. 2 M. C. Burnett, fishing at 2,865 feet.

Gray County: Anderson and others' No. 1 Bradford, drilling at 1,940 feet; Dancinger Oil & Refining Co.'s No. 1 Bowers, at 1,250 feet; Holmes and others' No. 2 Morse, will shoot at 2,716 feet; Wilcox Oil & Gas Co.'s No. 1 Wilson, drilling in blue shale at 3,652 feet.

Wheeler County: Whittington and others' No. 3 Williams & Laycock, drilling at 410 feet; No. 4 Williams & Laycock, at 250 feet; Vaughn and others' No. 1 Krey, spudding.

Cotton County: Woodley and others' No. 1 Dulaney, drilling at 2,810 feet.

Knox County: Sanders and others' No. 1 Lawson, drilling at 1,030 feet.

Baylor County: Apple-Brandenberry Oil Co.'s No. 1 Street, drilling at 1,050 feet; Bussell and others' No. 1 Bussell, at 1,086 feet; Duke and others' No. 1 Dippery, at 1,040 feet; Richardson Brothers' No. 1 Wallace, at 1,810 feet.

Clay County: Atlantic Oil Production Co.'s No. 1 Scaling, fishing at 3,112 feet; Culbertson and others' No. 1 fee, spudding; Holmack Oil Co.'s No. 1 Gore, drilling at 1,240 feet; Lone Star Gas Co.'s No. 1 Magnolia Petroleum Co., drilling at 1,435 feet; No. 22 Martin, at 1,380 feet; No. 1 Texas Co., at 1,600 feet; Southern Exploration Co.'s No. 1 Dunn, at 1,850 feet.

Montague County: Humphreys Boyd No. 3 Maddox, fishing at 2,130 feet; Texhoma Oil & Refining Co.'s No. 1 Lemon, spudding; No. 3 Howard, drilling at 770 feet.

Cooke County: Leonard and others' No. 1 Hamilton, drilling at 1,340 feet; Pettit and others' No. 1 Nelson, at 1,560 feet; Rowson and others' No. 1 Aldridge, at 2,000 feet.

Grayson County: Clopton and others' No. 1 Thorne, underreaming; Whitesboro Oil & Development Co.'s No. 1 Jewell, drilling at 430 feet.

Fannin County: Lester Production Co.'s No. 1 Graves, drilling at 2,780 feet.

Denton County: Gainesville Syndicate No. 1 Fortenberry, drilling at 1,410 feet.

Wise County: Boonville Oil Co.'s No. 1 Carter, drilling at 1,310 feet.

Scurry County: Northwest Oil Co.'s No. 2 Moore, drilling at 360 feet.

Shackelford County: Haile and others' No. 1 Reynolds, drilling at 1,750 feet; Humble Oil & Refining Co.'s No. 1 Green, at 3,777 feet; Loggie and others' No. 1 Black, at 375 feet; Phillips Petroleum Co.'s No. 1 Compton, fishing at 512 feet; No. 1 Jackson, drilling at 2,910 feet.

Palo Pinto County: Owens and others' No. 1 Bond, drilling at 3,610 feet; Scott and others' No. 3 Wheeler, at 2,840 feet; Singleton and others' No. 1 Smith, at 1,465 feet; Hughes and others' No. 2 Weldon, in gray lime at 4,170 feet; Little Caddo Syndicate's No. 2 Massie, at 1,310 feet; Manning and others' No. 1 Hitson, at 3,940 feet; Moore and others' No. 2 Stuart, at 1,365 feet; Phillips and others' No. 1 Caudill, cleaning out at 3,800 feet.

Parker County: English and others' No. 1 Peters, underreaming; Weaver and others' No. 1 Evans, underreaming.

Callahan County: Donley Brothers' No. 1 Isenhower, drilling at 1,700 feet;

(Continued on Page 127)

"OILWELL" ESTD 1862 C O TRADE MARK (REGISTERED)

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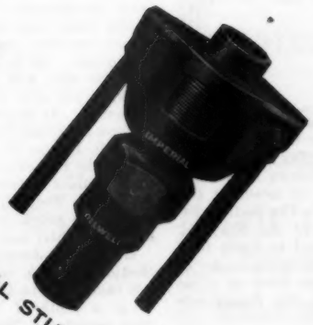

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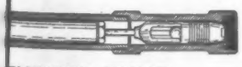

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"OILWELL" ESTD 1862 C O TRADE MARK

# North Louisiana-Arkansas

By M. L. Vaughn

**New boom on at Smackover as result of discovery of deeper producing sand. Development there results in substantial increase in crude production. During past week 85 new locations made in Arkansas alone. El Dorado sharing in activity prevalent in Smackover district. Two permits for Memphis pipe line.**

SHREVEPORT, La., March 16. — A substantial increase in production is evidenced in last week's development, particularly in the Smackover Field, where in the heavy oil district alone there was an increase of 3,368 bbls. a day. Slight increases in El Dorado, Nevada County and Smackover light, brought the increase in the Arkansas districts up to 3,670 bbls. a day. Total production in Arkansas averaged 111,012 bbls. a day, distributed as follows:

**Arkansas**

| | |
|---|---|
| El Dorado | 9,200 |
| Nevada County | 1,625 |
| Smackover light | 32,430 |
| Smackover heavy | 65,705 |
| Stephens | 2,052 |
| Total | 111,012 |

**Louisiana Up Also**

North Louisiana production also showed a slight increase, distributed impartially throughout the various districts. The daily average was 50,534 bbls., distributed as follows:

**North Louisiana**

| | |
|---|---|
| Bellevue | 3,555 |
| Caddo light | 9,520 |
| Caddo heavy | 2,125 |
| Cotton Valley | 8,910 |
| De Soto and Red River | 4,457 |
| Elm Grove | 695 |
| Haynesville | 14,392 |
| Homer | 6,880 |
| Total | 50,534 |
| Total both fields | 161,546 |
| Increase | 4,814 |

**New Boom at Smackover**

Another deep well in the Smackover Field was completed Friday night when C. C. Murdock's No. 1 Bilyeu in Section 1-16-15, came in flowing by heads at the rate of 500 bbls. a day. The well is located in the north end of the Norphlet district and was completed at 2,484 feet. Eighty-five new locations were made in Arkansas during the past week as a result of the new boom in the Smackover Field.

A 15-cent cut in the price of oil in the Smackover and Cotton Valley districts was an unexpected blow to operators. Apparently there is a difference of opinion as to the price of Smackover light oil, as three of the companies purchasing the higher grades have failed to follow the lead of the Standard. The Gulf Refining Co., and The Texas Co. reduced the price of both light and heavy oil 15 cents, but the Louisiana Oil Refining Corp., the Shreveport-El Dorado Pipe Line Co. and the Atlantic Oil Producing Co. retained their former price of $1.60 for 28 and above, reduced 27 to 27.9 five cents, making it $1.55, 26 to 26.9 ten cents, making it $1.50; 25 to 25.9 ten cents, making it $1.40, applying the 15-cent cut to below 25 only, making it $1.15. Apparently the old line companies have sufficient crude of their own or under contract, while the smaller companies are still in the market for crude at the higher prices. The Crusader Oil Producing Co. posted a decrease of 25 cents on Smackover heavy, effective Wednesday, March 11.

The Arkansas railroad commission has issued two permits to rival companies for pipe lines to be built from the Arkansas gas fields to Memphis, one composed of local capital and one of California investors. Appeal was made to the commission by the El Dorado interests, who were the first to obtain a permit, for the cancellation of permit No. 2, but was denied. The first group claim that they have already paid out $75,000 in making surveys and obtaining rights of way and that they intend to fulfil the terms of their contract which requires them to have construction under way by April 1. The two groups of investors have been given two weeks in which to reach an agreement, and if satisfactory terms are not arranged by that time the commission will settle the controversy.

**Smackover Deep Drilling**

It is difficult to say at present where the Smackover Field ends and the Norphlet district begins, since the entire intervening territory is now producing, but it is at a point lying about half way between these two towns around which most of the interest in the deep sand development now centers. This particular area was looked upon for more than two years as purely a gas producing territory and it is only within the past few months that deeper drilling has resulted in the completion of a series of good producing oil wells in the 2,300-foot and 2,400-foot sands.

Three wells resulting from the deep sand development have produced practically clean pipe line oil, the sand and water troubles seemingly having been eliminated. It is estimated that more than 60 rigs will be running within a week, either new wells or old ones being deepened. At present, most of the deep drilling is around Sections 3 and 8, Township 16, Range 15, in the southeast corner of the Smackover or the north end of the Norphlet districts, but it is firmly believed the deep drilling will in a very short time extend over the entire Smackover, Norphlet and Louann districts.

George & Jones' No. 3 Umstead in Section 4-16-15, has proved the best well yet completed in the deep sand. It came in at a depth of 2,351 feet and was at first reported a 200-bbl. well, but is now flowing at the rate of 1,200 bbls. a day.

One peculiarity of the development in this region is that the oil produced in the deep sand continues of a low gravity instead of producing higher grades as the depth increases, as has been the case in other districts. The oil from the deep producers tests only 21 gravity, but even heavy oil at the present price of $1.30 a barrel is a tempting proposition. A few small producers have been completed in the 2,600-foot sand in the light oil district, near Louann, and this territory is also due for a play of deep drilling although not of such extensive proportions as that in the east end of the field.

Smackover itself is experiencing a second boom as a result of the resumption of drilling activity in this district, and the streets and hotels somewhat resemble the days when the Smackover Field was first discovered, two and a half years ago, only with a marked difference in the aspects of the town itself. Graded and well graveled streets, modern brick stores, up-to-date hotels and attractive cottage homes, certainly bear no resemblance to the oil field town of the early days when nothing but shacks and tents existed in the way of housing facilities and mule teams dragged their way wearily through the muddy streets.

**Union County Completions**

Most of the drilling in Union County centers at present in the north end of the Norphlet district and during the past week one deep test and two shallow wells were completed in this territory. Three other producing wells were completed in the south end of the Louann district.

J. W. Clark completed a monster gas well in No. 3 Palmer, Section 9-16-15, one of the deep tests in the Norphlet district, the well coming in with an initial production of 57,000,000 feet of gas at 2,337 feet.

The two shallow wells in the Norphlet district were Hoewel and others' No. 3 Williams in Section 3-16-15, swabbing 225 bbls. at 1,984 feet, and the Standard Oil Co.'s No. 16 J. H. Alphin, Section 2-16-15, pumping 75 bbls. at 2,006 feet.

In the Louann district, the Gulf Refining Co. completed No. 1 T. P. Howard, Section 13-16-17, pumping 37 bbls. at 2,319 feet; Wetherbee and others completed No. 4 Rice, Section 6-16-16, pumping 100 bbls. at 2,266 feet, and the Magnolia Petroleum Co. abandoned No. 2 J. G. Smith, Section 2-16-17, at 2,392 feet.

**Ouachita County**

Nine completions were reported from the Smackover Field in Ouachita County, three failures and nine producing wells adding 440 bbls. to the output of the field. All of the producers were in the light oil district.

The Arkansas Drililng Co. completed No. 6 Reynolds in Section 24-15-17, making an 80-bbl. pumper at 2,322 feet.

Boyd & Bonham completed No. 1 Stringfellow in Section 28-15-16, swabbing 60 bbls. at 2,268 feet.

Bray-Hawthorne, in an attempt to extend the Louann district a mile or so farther north, tested dry in their deep test on the Goodwin lease in Section 12-15-17, at 2,593 feet, and the well was abandoned.

The Forest Oil Co. completed No. 10 Cramer in Section 27-15-16, flowing 100 bbls. at 2,290 feet. Its No. 11 Mullins in the same section was junked and abandoned at 2,096 feet.

Hunt and others completed No. 11-C Halton in Section 26-15-17, pumping 85 bbls. at 2,370 feet, and No. 5-B Myatt, Section 22-15-17, pumping 55 bbls. at 2,369 feet.

Whittaker and others completed No. 2 Green, Section 23-15-17, pumping 60 bbls. at 2,343 feet.

Olvey and others, in a test on the Umsted lease in Section 5-16-15, junked the hole at 1,895 feet, and the well was abandoned.

**Columbia County**

Moore and others tested dry at 2,400 feet in No. 1 Fullenweider, Section 12-17-22, and the test was abandoned. The well was located 6 miles west of Magnolia.

**Louisiana Completions**
**Cotton Valley**

Two good pumpers were completed in the Cotton Valley district during the week, their combined production amounting to 400 bbls. a day.

The Crusader Oil Producing Co. completed No. 12-B Hope estate in Section 13-21-10, pumping 250 bbls. at 2,514 feet.

The Louisiana Oil Refining Corp.'s No. 2 Gray, in Section 13-21-10, made a 150-bbl. pumper at 2,582 feet.

**Springhill District**

In the Springhill district in the north end of Webster Parish, the Simms Oil Co. completed a big gasser on the Waller lease in Section 28-23-11, making 45,000,000 feet of dry gas at 2,694 feet.

**Bossier Parish**

In the Elm Grove district, Davis & Hanby junked the hole at 1,876 feet in No. 1 D. J. McAnn, Section 31-16-11, and the well was abandoned.

Thigpen & Herold tested salt water in their test on the Bernstein lease in Section 11-20-13, and the test was abandoned at 2,202 feet. The well was located 4 miles northeast of Benton in purely wildcat territory.

**Caddo Parish**

In the Caddo Lake district, the Gulf Refining Co. completed No. 221 Ferry Lake in Section 21-20-16, making a 50-bbl. pumper at 2,291 feet.

**Claiborne Parish**

A wildcat test drilled by J. P. Evans and others on the Taylor lease in Section 5-19-5, went into salt water at 2,861 feet and was finally abandoned. The test was located 8 miles north of Arcadia and 10 miles southeast of Homer.

**Ouachita Parish**

The Standard Carbon Co. completed No. 1 Swartz in Section 6-19-5, making 29,000,000 feet of gas at 2,173 feet.

**Union Parish**

The Roxana Petroleum Corp. has abandoned its location on the J. P. Vom lease in Section 18-22-1e, eight miles north of Farmerville.

**Louisiana Drilling Operations**
**Cotton Valley**

No increase in drilling activity is noticeable in the Cotton Valley district, most of the valuable leases in this territory being held by a few of the major companies, occasioning but little necessity for offsetting.

The Alabama Petroleum Co.'s No. 1 Coffee in Section 19-21-9, is standing with 2,000 feet of oil in the hole at 2,526 feet, and its Pardee B-3 in Section 24-21-10, is drilling at 2,000 feet.

The Crusader Oil Producing Co. is arranging to pump Hope Estate B-9 in Section 24-21-10, at 2,516 feet and B-11 in Section 13-21-10 at 2,542 feet; B-14, Section 13-21-10, is bailing casing at 2,470 feet; B-15, Section 25-21-10, is drilling at 1,860 feet, and in the same section B-16 is drilling at 1,750 and B-17 at 1,000 feet.

M. J. Derryberry is testing 5 feet of sand at 2,580 feet in Smith A-1, Section 29-21-10, and has 1,000 feet of fluid in the hole.

The Humble Oil & Refining Co. has set 6⅝-inch casing at 2,495 feet in Bodcau B-13, Section 28-21-10; drilling at 2,405 feet in B-14, Section 13-21-10, drilling at 1,970 feet in B-15, Section 28-21-10, and at 1,810 feet in B-17, Section 28-21-10. No. 3 Gray in Section 26-21-10, is drilling in lime at 2,330 feet and in the same section No. 4 is drilling in chalk at 1,730 feet and No. 5 is rigging up to drill.

The Louisiana Oil Refining Corp. is drilling at 400 feet in No. 2 Bodcau, Section 13-21-15; No. 3 Crichton, Section 21-21-10, set 12½-inch casing at 430 feet and is drilling at 550 feet; No. 3 Gray, Section 28-21-10, has set 6-inch casing at 2,530 feet and No. 4 in the same section is drilling in shale at 2,500 feet.

The Ohio Oil Co. has eight rigs running on the Bodcau land in Sections 13, 15, 27 and 28-21-10, two on the Cox lease in Section 15-21-10 and three on the Gray lease in Section 26-21-10. No. 3-B Sidney, in Section 16-21-10, is drilling at 1,700 feet.

The Palmer Corp. is drilling plug in 6-inch at 2,558 feet in No. 2 Tillman, Section 28-21-10.

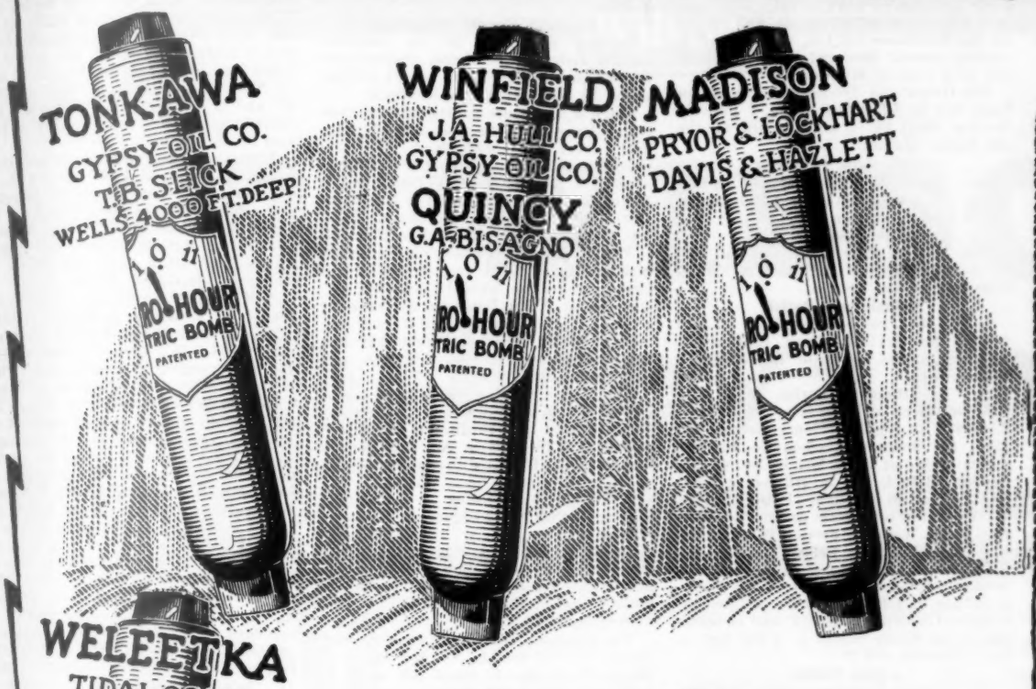
The Ruston Drilling Syndicate got a small showing of oil at 2,530 feet in No. 1 Cox, Section 15-21-10, drilled 10 feet deeper and is bailing salt water at 2,540 feet.

The Woodley Petroleum Co. is drilling at 600 feet in No. 1 Gray, Section 26-21-10.

**Springhill District**

Several new tests are being started in the north end of Webster Parish in the Springhill and Sarpeta districts.

The Simms Oil Co. is rigging up to drill No. 1 Burrell in Section 34-23-10, and the Standard Oil Co. has set 10-inch



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| COMPANY | FIELD | No. of Zero Hour Bombs Used |
|---|---|---|
| Gypsy Oil Co. | Tonkawa | 2 |
| Gypsy Oil Co. | Winfield | 1 |
| Waite Phillips Co. | Bristow | 1 |
| J. A. Hull Co. | Winfield | 2 |
| T. B. Slick | Tonkawa | 1 |
| Davis & Hazlett | Madison | 1 |
| Tidal-Osage | Weleetka | 1 |
| Atlantic Oil Prod. Co. | Bristow | 1 |
| Pryor & Lockhart | Madison | 1 |
| Greenland Oil Co. | Teter | 1 |
| G. A. Bisagno | Quincy | 1 |
| Midwest Refining Co. | Salt Creek, Wyo. | 294 |
| E. T. Williams Oil Co. | Salt Creek, Wyo. | 7 |
| Bonfils Oil Co. | Salt Creek, Wyo. | 4 |
| Mutual Oil Co. | Salt Creek, Wyo. | 5 |
| Marine Oil Co. | Salt Creek, Wyo. | 3 |
| Kasoming Oil Co. | Salt Creek, Wyo. | 1 |

**Salt Creek Wyoming**

**Midwest Refining Co.**
**E. T. Williams Oil Co.**
**Mutual Oil Co.**
**Utah Oil & Refining Co.**
**Marine Oil Co.**
**Kasoming Oil Co.**
**Bonfils Oil Co.**

**NOTE:**

Zero Hour Electric Bomb first placed on market in Salt Creek, Wyo., field about Sept. 15, 1924.

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casing at 200 feet in No. 1 Maynor in the same section.

The Oil Fields Gas Co. is drilling at 2,500 feet in No. 2 Jordan-Young, Section 34-23-10, and at 2,400 feet in No. 1 Simpson, Section 3-22-10.

**Bienville Parish**

The Roxana Petroleum Corp. is drilling in lime at 2,910 feet in the deep test on the Bryan lease in Section 30-17-6, 8 miles south of Gibsland.

**Bossier Parish**

Boger and others have derrick up for No. 2 Atkinson in Section 3-18-12, 8 miles northeast of Shreveport and south of Bodeau Lake. A previous test in this territory, No. 1 Atkinson, was started by McClure & Ferrell and taken over by Corbet and others and is shut down at 1,135 feet.

**Bellevue Field**

The Dixie Oil Co. is drilling at 625 feet in No. 1 Johnson, Section 34-19-11, and the Humble Oil & Refining Co. is arranging to pump Fee A-20, Section 15-19-11, at 420 feet, and is down 25 feet in No. 28 Roy, Bliss & Wetherbee, in the same section.

Osborne and others are drilling at 150 feet in No. 2 McDade, Section 32-19-11, and G. W. Wetherbee is drilling at 380 feet in No. 5 fee and rigging up to drill No. 6 in Section 23-19-11.

Interest in Caddo Parish development still centers around the three deep tests in the Pine Island district and one in the south end of the Elm Grove gas territory.

The Dixie Oil Co.'s deep test on the Noel lease in Section 24-21-15, is drilling ahead at 3,582 feet, and its No. 53 Robertshaw in Section 13-21-15, is drilling at 3,445 feet, with No. 53 Robertshaw in the same section drilling at 2,235 feet.

The Fortuna Oil Co. is down 3,425 feet in its deep test No. 10 Robertshaw in Section 23-21-15, and The Texas Co. is drilling at 2,710 feet in No. 3 Huron Land Co., Section 8-15-12, in the south end of the Elm Grove gas district.

Among the wells drilling in the old Caddo Field, the Fortuna Oil Co. has set 6-inch casing at 2,125 feet in No. 14 Doan-Thigpen, Section 5-20-15, and is drilling at 140 feet in No. 2 Levee Board, Section 8-20-15; W. M. Gross and others are drilling at 100 feet in No. 3 H. Rives, Section 5-20-16, and the Gulf Refining Co. is drilling at 500 feet in No. 222 Ferry Lake, Section 16-20-16.

The Standard Oil Co. is bailing 8-inch casing at 2,337 feet in No. 170 Stiles, Section 27-21-16, and The Texas Co. is drilling in chalk rock at 1,715 feet in No. 10 Russell, Section 3-20-16. The Tholl Oil Co. is drilling at 750 feet in No. 7 H. I. & B. Co., Section 14-21-15, and Woodley & Collins are rigging up to drill No. 1 McVea in Section 23-19-14.

Among the interesting wildcat tests in Caddo Parish, the Fortuna Oil Co. has set 10-inch casing at 925 feet in No. 1 Mitchell, Section 17-18-16, 4 miles west of Cross Lake, and Haynes Brothers have 200 feet of oil in the hole and are arranging to pump No. 1 Live Stock & Planting Co. in Section 8-19-16, at 2,330 feet. This test is located 6 miles southwest of Mooringsport.

In the Waskom district, A. C. Scott and others are drilling at 1,200 feet in No. 1 Stringfellow, Section 19-17-16, and the Waterman Drilling & Development Co. at 1,610 feet in No. 1 Hunting Club, Section 17-17-16.

The Gulf Refining Co. has gone back into an old well on the Ferry Lake lease and will drill to the deep sand. The well is in Section 14-20-16, and was completed in 1916 making a 60-bbl. pumper at 2,205 feet. It is now drilling at 2,387 feet.

**Claiborne Parish**

The Triangle Drilling Co. is rigging up to drill No. 1 J. H. Cox in Section 7-19-6, 12 miles southeast of Homer.

Woodley & Collins set 12½-inch casing at 78 feet in No. 1 Oakes, Section 8-20-5, 9 miles southeast of Homer, drilled to 400 feet and are shut down on account of a fresh water flow.

**De Soto Parish**

L. V. Ulrey reports a showing of high gravity oil at 2,903 feet in a test on the Robinson lease in Section 22-11-12, 2 miles north of Pelican. The hole has been filled with mud and a test will be made as soon as liner is set. The well is a mile northeast of an old well drilled by the Producers Oil Co., which came in making several thousand barrels of fluid but soon went to salt water.

The Greyhound Syndicate is drilling in hard lime at 3,150 feet in No. 1 Pollock, Section 36-11-14, 4 miles south of the old Spider district.

**La Salle Parish**

The Urania Petroleum Co. is arranging to set 8-inch casing at 1,200 feet in No. 6 Urania, Section 18-10-2e.

**Morehouse Parish**

The Natural Gas Producing Co. has set 6-inch casing at 2,243 feet in No. 15 Crossett, Section 20-22-5.

**Natchitoches Parish**

R. O. Roy has a fishing job at 940 feet in No. 1 C. M. Durr, Section 27-10-10, 10 miles south of the old Bull Bayou district.

**Ouachita Parish**

Montgomery and others are drilling at 2,120 feet in No. 1 McHenry, Section 12-19-4; the Southern Carbon Co. has set 6-inch casing at 2,156 feet in No. 45 fee, Section 11-19-4, and is drilling at 1,500 feet in No. 46, Section 11-19-4, and J. P. White and others are drilling at 2,035 feet in No. 1 Jones, Section 6-19-5.

**Sabine Parish**

In about the center of Sabine Parish, 3 miles southeast of Zwalle, L. M. Emlet is drilling at 1,425 feet in No. 4 Bowman Lumber Co., Section 8-7-12, and is reaming to set 8-inch casing at 2,480 feet in No. 5, Section 9-7-12.

**Union Parish**

The Roxana Petroleum Corp. has derrick up for No. 1 Henderson-Bennett in Section 13-22-3w, 15 miles northwest of Farmerville and about the same distance southeast of Junction City.

The Simms Oil Co. hit the top of the Blossom sand at 2,709 feet and tested salt water and is drilling deeper at 2,930 feet. This test is 8 miles south of Junction City.

**Winn Parish**

Galloway & Arrendale are down 2,125 feet in a test on the McCarty land in Section 5-12-1w, 10 miles northeast of Winfield.

**Ouachita County, Arkansas**

Drilling operations in the Ouachita County district have almost doubled during the past week. There are 61 drilling wells, 14 rigs and 4 new locations.

Clark & Melat are arranging to deepen No. 1 Murphy, in Section 4-16-15, from 2,290 feet; the Cumberland Petroleum Co. is running 2-inch tubing with 30 feet of sand in the hole at 2,295 feet in No. 6 Reynolds, in Section 23-15-17; Eberhardt and others are fishing for slip at 2,020 feet in No. 1 Gibson, in Section 27-15-17.

The El Dorado Union Oil Co. set 6-inch casing at 2,171 feet in No. 3 LaGrone, in Section 36-15-17, and has derrick up for No. 4 LaGrone, in the same section; Ellis & Dumas set 10-inch casing at 60 feet, in No. 5 Forest City Box Co. in Section 31-15-16, and are now drilling at 480 feet.

The Forest Oil Co. set 10-inch casing at 106 feet in No. 16 Cramer, in Section 22-15-16, and is arranging to set 4-inch casing at 2,264 feet in No. 5 Minor, in Section 29-15-16; Guy Freely set 10-inch casing at 60 feet in No. 2 Gibson, in Section 26-15-17, is drilling at 1,700 feet, and rigging up No. 2 Gibson, in the same section.

George & Jones are rigging up Nos. 4 and 5 Umsted, in Section 4-16-15; Giles and others are bailing to test 74 feet of broken sand at 2,061 feet in No. 1 Neely, in Section 26-15-16.

The Gilliland Oil Co. is running core barrel at 2,515 feet in No. B-5 Myar, in Section 30-15-16. It tested salt water at 2,421 feet with 2 feet of sand in the hole; Gray and others set 10-inch casing at 165 feet in No. 4 Myar, in Section 32-15-16, and are now drilling at 1,275 feet.

The Gulf Refining Co. has derrick up for No. 3 R. Bennett, in Section 35-15-15; is drilling No. 1 Burkett, in Section 7-15-16, at 2,333 feet; has derrick up for No. 6 B. Goodwin, in Section 32-15-15; is drilling No. 2 Hardin, in Section 28-15-16, at 2,075 feet; made location for No. 12 Hardy-Murphy, in Section 4-16-15; set 6-inch casing at 2,241 feet in No. 4 Reynolds, in Section 23-15-17; has derrick up for No. 5 Ward, in Section 22-15-17; set 6-inch casing at 2,225 feet in No. A-11 Werner, in Section 26-15-17, and is bailing to test 28 feet of sand at 2,288 feet; set 10-inch casing at 97 feet in No. A-12, Werner in Section 26-15-17, and is drilling at 1,778 feet, and has derrick up for No. A-14 Werner, in Section 36-15-17.

Hale and others are sidetracking three joints of casing at 2,050 feet in No. 1 Fincher, in Section 29-15-16; Hemphill and others have derrick up for No. 1 Elliott, in Section 14-15-17; the Houston Oil Co. has derricks up for No. 6 Hinton, in Section 5-16-15, and No. 10 B. T. Laney, in Section 31-15-15.

J. K. Hughes set 6-inch casing at 2,171 feet in No. 2 Reeves, in Section 28-15-16.

The Humble Oil & Refining Co. is rigging up No. B-2 Berg, in Section 30-15-15; is arranging to deepen No. 5 Flannigan, in Section 6-16-15, from 2,025 feet. This was formerly completed making 15,000,000 feet of gas and 200 bbls. of oil. It has derrick up for No. 6 Flannigan, in the same section; derrick up for No. 6 Umsted, in Section 5-16-15, and in the same section is rigging up No. 7 Umsted. H. L. Hunt and others set 6-inch casing at 2,285 feet in No. C-10 Halton, in Section 26-15-17; they are rigging up No. B-6 Halton in the same section; they set 10-inch casing at 65 feet in No. A-2 Myatt in Section 22-15-17, and are drilling at 1,900 feet; they are waiting for standard rig with 58 feet of broken sand and 500 feet of oil in the hole at 2,375 feet in No. 4-A Myatt, in Section 22-15-17; they are drilling No. B-5 Myatt, in Section 22-15-17, at 2,150 feet.

**Other Operations**

The Imperial Oil & Gas Co. has made location for No. 5 McClanahan, in Section 6-16-15; the Invaders Oil Co. is rigging up No. 2 Hardin, in Section 22-15-16; D. N. Johnson-tested and has showing of oil at 2,280 feet in No. 2 Hicks, in Section 27-15-16; Kelly and others are drilling at 2,121 feet in No. 1 Wells, in Section 23-15-17; Lea, trustee, set 6-inch casing at 2,292 feet in No. 2 Smith, in Section 26-15-17; Leon and others are drilling at 2,275 feet in No. 2 Berg, and have derrick up for No. 3 Berg, both in Section 4-16-15.

The Louisiana Oil Refining Corp. is rigging up No. 1 Myatt, in Section 22-15-17; the Lion Oil & Refining Co. has derrick up for No. 2 Hays, in Section 4-16-15; the Magnolia Petroleum Co. set 6-inch casing at 2,273 feet in No. 2 Bettie-Clawson, in Section 35-15-17.

The Marine Oil Co. set 12-inch casing at 65 feet in No. 4 Hays, in Section 4-16-15, and is drilling at 1,250 feet; is rigging up No. 5 Hays, in Section 4-16-15, and No. 5 Umsted, in Section 5-16-15.

J. H. Meek, receiver, has derrick up for No. 9 McKenzie, in Section 36-15-16; Murdock and others are drilling in No. 1 Riley, in Section 22-15-17, at 1,700 feet.

The Penguin Oil Co. has derrick up for No. 3 Hardin, in Section 27-15-16; is arranging to deepen No. 1 Umsted, in Section 4-16-15, from 1,998 feet. This was formerly completed making 150 bbls. of oil. J. D. Reynolds tested No. 5 Ward, in Section 25-15-17, and has salt water at 2,384 feet. It is drilling at 2,703 feet.

Riggs and others are fishing for 1,200 feet of 6-inch casing stuck at 1,500 feet in No. 1 Hildreth, in Section 22-15-17.

The Roxana Petroleum Corp. is rigging up No. 3 Umsted, in Section 4-16-15; the Simms Oil Co. set 10-inch casing at 40 feet in No. E-4 Berg, in Section 30-15-15; J. S. Smith tested No. C-1 Shirey, in Section 35-15-17, and found salt water. He plugged back 4 feet and is drilling at 2,289 feet.

The Standard Oil Co. of Louisiana is arranging to deepen No. 2 R. Bennett, in Section 33-15-15, from 2,027 feet; set 10-inch casing at 133 feet in No. 2 George Powell, in Section 34-15-15; has derrick up for No. 7 Umsted, in Section 32-15-15, and is moving in rig for No. 13 Umsted, in Section 30-15-15.

The Sun Oil Co. set 10-inch casing at 105 feet in No. 5 Hardin, Section 27-15-16, and is now drilling at 665 feet; the

(Continued from Page 38)

# News of Mexican Fields

By George Blardone

TAMPICO, Mexico, March 13.—With an even 20 wells completed in Mexican pools the past week, only four can be classed as producers, with new potential flush production of say 15,800 bbls., all of which belongs to the northern fields. Three completions in the south fields were failures.

National Lines of Railways, drilling on its right-of-way in the Chapacao sector of the Ebano territory, finished its first right-of-way producer in its No. 6, which is rated 10,000 bbls. at 2,125 feet. The same interests, drilling in the Federal zone on the banks of the Panuco River at Raventadero, (old Panuco), finished No. 21 at 1,780 feet, the well being good for say 2,000 bbls. International Petroleum Co.'s No. 138, Lot 5 Cacalilao, is a 3,000-bbl. well at 2,020 feet. In the El Barco district, Kern Mex Oil Felds, Ltd., has an 800-bbl. producer in No. 9 El Barco at 2,239 feet. Credito Petrolero No. 4, Lot 15 Lomas y Llanos, finished what might prove to be a stripper at 2,327 feet.

The northern field failures follow: La Corona Petroleum Co.'s No. 52 Salvasuchi, drilled into salt water at 2,096 feet. International Petroleum Co.'s No. 152, Lot 5 Cacalilao is dry at 2,178 feet. Transcontinental Petroleum Co.'s No. 131, Lot 4 Cacalilao, dry at 2,310 feet; No. 173 Lot 5 is a failure at 2,185 feet; and in Paciencia, the district just north of Toteco, which is the bright particular spot in which Transcontinental is now operating, Nos. 10 and 11 are both failures at 2,340 and 2,300 feet respectively. In Corcovado, La Corona Petroleum Co. No. 2, Lot 6, is a duster at 2,400 feet, and Mexican Gulf's No. 18, Lot 4 there, is the same at 2,325 feet. In Chapacao, of the Ebano sector, Mexican Petroleum Co.'s No. 17, is dry at 2,302 feet. In Tortuga, Morrison No. 4 is a salt water well at 2,735 feet, which adds somewhat to the gloom that has been long settled over this sector. In the El Barco sector, Kern Mex Oil Fields, Ltd.'s No. 13 La Palma, is a duster at 2,544 feet. Out in the Marland Field, Cia. Franco Espanola, No. 21 Limon is abandoned a crooked hole at 2,769 feet.

In the south fields, International Petroleum Co.'s No. 1 Santa Amalia is a duster at 3,416 feet. Mexican Eagle Oil Co.'s No. 27, Lot 198 Amatlan, drilled into salt water at a subsea level of 1,655 feet, and Hausteca Petroleum Co.'s No. 8 Chapopote Nunez did the same at a sub-sea level of 2,068 feet.

**Field Operations**

In the Cacalilao sector of the northern fields drilling operations during the past week follow: La Corona Petroleum Co., in ot 4; Nos. 165 and 166 are 1,645 feet in the San Felipe and 2,090 feet in limestone respectively; Nos. 167 and 168 have each cemented 8-inch casing in the San Felipe at 1,185 and 1,205 feet respectively, and in Lot 1, No. 151 is in the San Felipe at 1,400 feet. International Petroleum Co., in Lot 5; No. 109 is in the Tamasopa at 2,022 feet; No. 148 is in gray lime at 1,875 feet; Nos. 149 and 150 are in white lime at 2,040 and 2,145 feet respectively; No. 151 is in gray lime at 1,815 feet; No. 153 is in white lime at 2,192 feet; No. 155 is in the San Felipe at 1,725 feet; No. 156 is in the Tamasopa at 2,135 feet; No. 157 is cementing 6-inch in the San Felipe at 1,194 feet; No. 158 is in the Tamasopa at 1,955 feet; No. 161 will cement 8-inch in the San Felipe at 1,190 feet; No. 162 is in gray lime at 1,740 feet; No. 163 is in shells at 1,150 feet; Nos. 164 and 165 are in gray shale at 580 and 200 feet

(Continued on Page 102)

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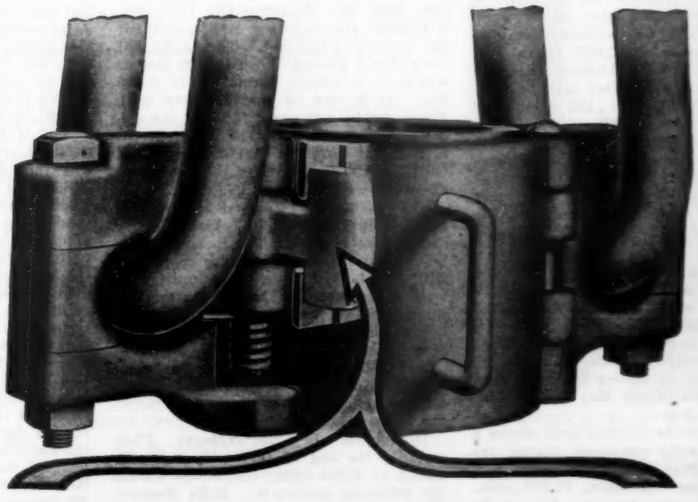

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# Gulf Coast Oil Operations

By P. L. McGreal

**Hull Pool stages surprise with three wells beyond ordinary; Humble Oil & Refining Co.'s No. 1 Merchant flowing 4,000 bbls.; Yount-Lee Oil Co.'s No. 6 Stengler 5,000 bbls. and Gulf Production Co.'s No. 30 Phoenix 1,500 bbls. Hull credited with 18,275 bbls. and South Liberty 6,000.**

HOUSTON, Tex., March 16. — Every now and then those interested in the Gulf Coast pools become perplexed over the problem of future supply, as they note the decline in the daily average. And invariably one of the old pools rises to the occasion with one or more big wells that relieves the tension for the time being.

This week the Hull Pool in the northeastern part of Liberty County caused a surprise and at the same time increased the daily average output. Three wells, all beyond the ordinary, were completed there early in the week. The Humble Oil & Refining Co.'s No. 1 Merchant, on the west side of the dome, came in flowing 4,500 bbls. with screen set at 4,075 feet. At the close of the week it was putting out an average of 4,000 bbls. per day. About the same time the Yount-Lee Oil Co.'s No. 6 Stengler, on the north side of the dome, completed at 4,100 feet, started flowing 3,500 bbls. Toward the end of the week it had increased to 5,000 bbls. per day. The Gulf Production Co.'s No. 30 Phoenix, a workover, is flowing 1,500 bbls. 19.3 gravity at 3,020 feet. In addition to these unusually good wells, all in old territory, the Republic Production Co.-Houston Oil Co.'s No. 8 Dolbear, an 800-acre lease on the east side of the dome, was worked over into a 50-bbl. pumper at 2,965 feet. The same interests' No. 97 Dolbear is pumping 100 bbls. at 2,100 feet, and No. 101 is making 100 bbls. No. 102 is credited with 75 bbls. and No. 103 with the same amount. The Republic Production Co. has increased its operations very materially in the Hull Pool since the first of the year. It now has its own 6-inch line to the pool from the refinery of the Galena Signal Oil Co. on the Houston ship channel.

On the south side of the dome the Humble Oil & Refining Co.'s No. 10 Guedry will make a pumper at 3,305 feet. The Higgins Oil & Fuel Co.'s No. 4 Taylor is pumping 50 bbls. at 3,280 feet. The Houston Production Co.'s No. 11 Barngrover is bailing at 3,652 feet. W. R. Flynn's No. 3 Ray is a 60-bbl. well at 2,225 feet.

A resume of the Coastal pools shows a total of 28 wells completed during the week, 8 of these being workovers. The new production aggregates 12,354 bbls., the highest in many months. Two of the completions bailed dry and one salt water. Eleven holes are bailing at the close of the week.

In the southwest division five wells were completed with 1,120 bbls. new production, and one gas well.

### Estimated Gross Production

The estimated daily average gross production in the Coastal region for the week is placed at 78,895 bbls., against 75,800 bbls. last week. The Hull Pool is credited with 18,275 bbls. and the new South Liberty district 6,000 bbls. The estimated gross daily average in the southwest division is placed at 43,145. The estimate for each district is as follows:

| District— | Gross Prod. |
|---|---|
| Batson | 1,535 |
| Blue Ridge | 725 |
| Barber Hill | 105 |
| Big Creek | 550 |
| Dayton | 40 |
| Damon Mound | 1,225 |
| Goose Creek | 5,675 |
| Humble | 4,810 |
| Hull | 18,275 |
| Jennings (La.) | 1,050 |
| Markham | 90 |
| Orange | 10,300 |
| Spindletop | 1,025 |
| Saratoga | 1,685 |
| Sour Lake | 4,060 |
| West Columbia | 12,300 |
| Welsh (La.) | 90 |
| Vinton (La.) | 5,680 |
| Lockport (La.) | 450 |
| South Liberty | 6,000 |
| Miscellaneous | 225 |
| Total | 78,895 |
| Southwest Division— | |
| Luling | 29,200 |
| Laredo | 4,100 |
| Somerset | 2,560 |
| Calliham | 340 |
| Rockdale-Minerva | 445 |
| Jim Hogg County | 6,500 |
| Total | 43,145 |
| Grand total for week | 122,040 |
| Grand total last week | 119,305 |
| Increase | 2,635 |

### Operations in the Pools

Interest in the new South Liberty Pool, 3 miles south of the town of Liberty, centers in the Gulf Production Co.'s No. 1 Van deVanter, one-half mile south of the group of five wells on the northeast flank of the dome. The Gulf Co. is setting casing at 3,600 feet. The Humble Oil & Refining Co.'s No. 2 Revere is dry and abandoned. It is southeast from the Winifree Oil Co.'s No. 1 Pickett, the discovery well which got the sand at 3,420 feet. The Hofer Oil Co.'s No. 1 Pickett is setting 60 feet of screen in a broken formation at 3,689 feet. It is east of the discovery well. These depths will serve to show the difference in the sands. The Monarch Oil & Refining Co.'s No. 1 Harrison (Peer Oil Co.), 150 feet north of the Winifree's discovery well, is below 3,360 feet.

The Oil and Gas Journal has referred to the faulty surveys in Liberty County in previous reviews. The lines are now being resurveyed and drilling operations will be checked necessarily until this work is completed. The acreage was cut up into small, long, narrow strips, and it has been found these strips overlapped. Many locations have been made on leases other than those described in the boundaries. Engineers of the Humble Oil & Refining Co. are now engaged in checking up boundary lines.

Production in the Liberty Field towards the end of the week was estimated at 6,000 bbls., distributed among the following producers: Mills Bennett, 3,110 bbls.; Vacuum Oil, 2,200 bbls.; Oxford Oil Co., 360 bbls. and the Winifree Oil Co. 325 bbls. So far there have been three failures in the field. The Humble's Nos. 1 and 2 Reviere bailed dry at 3,410 feet and the Bashara Oil Co.'s No. 1 Pickett bailed salt water Thursday at 3,400 feet and is drilling deeper. Operations in the field the latter part of the week were: Mill's Bennett's No. 4 Pickett, a derrick; No. 5, rigging up; No. 6, drilling at 1,250 feet; No. 7, 350 feet; No. 8, a location. The Humble Oil & Refining Co.'s No. 1 Pickett, drilling at 3,425 feet and Nos. 1 and 2 are derricks; No. 1 Harrison-Pickett, drilling at 3,570 feet. The Vacuum Oil Co.'s No. 2 Barrett, drilling at 3,320 feet; No. 3, 2,510 feet; No. 4, 1,350 feet; No. 5, 1,300 feet; No. 1 Reviere, 2,200 feet. The Bashara Oil Co.'s No. 2 Pickett is rigging up. The Peer Oil Corp.'s No. 2 Harrison is drilling at 2,990 feet; Nos. 3 and 4 are derricks; Nos. 5 and 6 locations. The Hofer Oil Corp.'s No. 2 Pickett is building derrick. The Sun Oil Co.'s No. 1 Shade is drilling at 1,600 feet; Nos. 2 and 3 are locations. Mrs. Neils Esperson's No. 1 Baldwin is drilling at 2,570 feet. F. M. Long's No. 1 Andrews is drilling at 3,600 feet. The Oxford Oil Co.'s No. 2 Harrison is drilling at 3,150 feet; No. 3, 1,200 feet; Nos. 4 and 5 are derricks. The Texas Co.'s No. 1 Monroe is drilling at 990 feet; the Gulf Production Co.'s No. 1 Van De Venter, at 3,670 feet; No. 1 Mecom and Speer, at 3,150 feet; No. 1 John Hamman, at 2,700 feet; No. 1 A. Williams and others is a derrick and No. 1 W. E. Orgain is rigging up.

The South Liberty Field continues the center of interest of Coastal operations where at the close of the week there were 25 rigs running, 8 derricks up preparatory to rigging up and 4 locations. Of the 25 wells drilling there were two, the Peer Oil Corp.'s No. 1 Harrison, down 3,360 feet, and the Hofer Oil Corp.'s No. 1 Pickett, 3,615 feet, showing oil.

### Goose Creek

In the Goose Creek Pool the Humble Oil & Refining Co.'s No. 56 Smith on the east side is flowing 1,200 bbls. of fluid, 300 bbls. of which is oil at 2,125 feet. Same company's No. 60 Smith is bailing at 4,215 feet. The Southern Exploration Co.'s No. 7 Wright is standing with 400 feet of fluid in the hole at 1,540 feet. Its No. 9 Wright will pump at 1,675 feet and No. 2 Wright is bailing at 2,575 feet. The Gulf Production Co.'s No. 18 John Galliard, a workover, is pumping 50 bbls. The Inca Production Co.'s No. 2 Duke, which last week flowed at the rate of 1,000 bbls. a day for several hours and sanded has been cleaned and will make a pumper at 4,600 feet.

In the Goose Creek Field the Humble Oil & Refining Co.'s No. 1 Hog Island is drilling deeper around 2,620 feet; No. 61 drilling at 1,950 feet; Gulf Coast Oil Corp.'s No. 31 Gaillard, at 2,275 feet; Sun Oil Co.'s No. 2 Wright at 1,675 feet. The Inca Production Co.'s No. 2 Duke will pump at 3,500 feet. The Bruce Petroleum Co.'s No. 2 Busch is shut down at 4,600 feet; No. 1 Scorrgea is rigging up to work over. The Copeland Oil Co.'s No. 5 Bryan is pumping water at 3,225 feet. The Gulf Production Co.'s No. 17 J. Gaillard fee is rigging up; No. 30 Beaumont is drilling at 2,275 feet; No. 32 Stateland Oil at 1,980 feet; No. 9 Chapman-Bryan is rigging up; No. 3 Paddock-Smith is drilling at 2,425 feet; No. 2 H. Busch at 2,750 feet; No. 10 C. Gaillard at 2,260 feet; No. 2 Wright "A" at 2,900 feet.

### Orange Pool

The Orange Pool did not register a completion during the week. The following tests are bailing: Atlantic Oil Production Co.'s No. 3 Moore at 3,275 feet; Mutual Oil Co.'s No. 7 Chesson at 4,650 feet, and the Edgerly Petroleum Co.'s No. 3 Carbello is bailing salt water at 4,800 feet. All are old holes deepened. The Rycade Petroleum Co. No. 5-A Cow Bayou is showing oil in the sand at 3,730 feet.

The Turner Oil Co. (Dick and others) has a location for No. 1 Turner, 4,500 feet west of production.

In the Orange Field the Brownie Babbitee Oil Co.'s No. 1 McLean is drilling around 4,800 feet. The Rycade Oil Corp.'s No. 2 State "C" is at 4,625 feet. The Tillery Oil & Refining Co.'s No. 9 Chesson "B" is drilling at 3,400 feet; No. 10 at 4,040 feet; No. 21 5,050 feet; Mutual Oil Co.'s No. 4 Chesson, 3,300 feet; No. 14 is a derrick. The Sun Oil Co.'s No. 2 Brown is fishing at 4,475 feet; No. 6 Gunstream is drilling at 4,525 feet; Supreme Oil Co.'s No. 1 Jackson at 3,810 feet; Orange Petroleum Co.'s No. 8 Chesson, 3,500 feet; No. 9 Winifree, 3,120 feet; Gulf Coast Oil Corp.'s No. 1 Leon, 2,760 feet; Sinclair Oil & Gas Co.'s No. 4 Granger, 3,300 feet. Monarch's No. 5 Galliere is rigging up to work over. The Gulf Production Co.'s No. 17 Lee Hager fee is drilling at 4,050 feet; No. 4 Chesson "A" at 2,750 feet; No. 9 Kishi-Lang "A" 3,150 feet; No. 2 Granger and others 3,000 feet; No. 1 M. Granger, 2,700 feet; No. 4 Hager-Moore is a location and No. 1 Winifree fee is rigging up to deepen.

### Other Pools

The old Saratoga Pool in Hardin County flashed across the horizon early in the week when the Rio Bravo Oil Co. No. 3 Bryant started flowing 700 bbls. at 2,669 feet with the bit in 35 feet of sand. The well quit flowing Thursday. It was 2 miles north of production in a territory that had been previously drilled over. The Regna Oil Co.'s No. 1 Petty is bailing at 1,300 feet.

The Spindletop Pool, the first producing spot in the Gulf Coast country rises out of obscurity from time to time with wells that range from 100 to 300 bbls. per day. The Stella Oil Co.'s No. 7 McFadden is one of these. It was completed as a 100-bbl. well at 872 feet. The Baker Oil Co.'s No. 11 White is pumping 20 bbls. at 1,885 feet. Ellis & Lancaster's No. 1 Lawrence is a 9-bbl. well at 850 feet. The Unity Oil Co.'s No. 43 National is bailing at 875 feet.

In the Batson Pool the Ada Bell Oil Co.'s No. 90 Davis is pumping 10 bbls. at 475 feet, and No. 91 Davis is making the same at 400 feet. The Acorn Oil Co.'s No. 53 Parafine is pumping 20 bbls. at 550 feet.

In the Markham Pool the Rycade Petroleum Corp. is setting 8¼-inch casing at 3,368 feet to test a sand at 3,326 feet. At Pierce Junction Snowden & McSweeney's No. 8 Kane, a workover is going on the beam at 3,950 feet. In the Humble Field the Kane Production Co. abandoned No. 2 Coulter, a formation test 7 miles east of production. The Humble Oil & Refining Co. is rigging No. 17 Wilson and S. A. Weed is starting No. 1 Strange.

In the Batson Pool the Ada Belle Oil Co.'s No. 92 Texas Co. is rigging up. The Paraffine Oil Co.'s No. 39 Paraffine is drilling around 1,025 feet. Buchanan's No. 81 Milholm at 1,755 feet. Anderson & Munson's No. 2 Hodges, 510 feet. The East Batson Oil Co.'s No. 9 Lone Acre is a location. The Gulf Production Co.'s No. 1 Leggett & Cheatham is rigging up.

In the Saratoga Pool the Rio Bravo Oil Co.'s No. 1 Fountain is rigging up. The Yount-Lee Oil Co.'s No. 1 Parrish is a location. The Gulf Production Co.'s No. 24 B. B. B. and C. is drilling around 800 feet.

In the Big Creek area The Texas Co.'s No. 1 Lingua is drilling at 3,300 feet. Gulf Production Co.'s No. 17 Davis, 3,450 feet; No. 18 at 2,950 feet; No. 19 at 1,650 feet; No. 20 at 900 feet; No. 9 Wheat at 3,415 feet.

Snowden & McSweeney's No. 8 Cain at Pierce Junction is going on the pump at 3,950 feet. The Gulf Production Co.'s No. 2 Cain is drilling at 3,650 feet. H. R. Cullen's No. 6 Howe at 1,450 feet; the Texas Exploration Co.'s No. 7 Dooley is milling at 3,360 feet.

The Texas Co.'s No. 12 Robinson at Blue Ridge is drilling at 3,975 feet; Gulf Production Co.'s No. 10 Blakley "C" at 2,700 feet; No. 8 Lescher, 1,600 feet; No. 3 Invincible Oil at 525 feet.

The Humble Oil & Refining Co.'s No. 10 Tyndall-Wyoming at West Columbia is drilling at 300 feet; No. 1 Wilson, 2,200 feet and Hyde Production Co.'s No. 1 McGregor 725 feet.

In the Hull Pool, the Humble Oil & Refining Co.'s No. 2 Hannah is a der-

(Continued on Page 115)

# See What Standard of California

**Think of the NEBERGALL SPIRAL STEM**

**produced by the Titusville Forge Company**

STANDARD OIL COMPANY

Torrance-Redondo Division, California,
February 20, 1925

Hillman-Cooney, Inc.,
1118 Santa Fe Ave.,
Los Angeles, Cal.

Exclusive California Representatives
NEBERGALL TIFOCO SPIRAL STEM.

Mr. J. M. Hillman,
Los Angeles, Cal.

Dear Sir: In line with our recent conversation regarding the performance of Spiral Stems on work under my observation.

In the Santa Maria Division in Santa Barbara County three attempts were made to drill a prospect well by using the old style stems, but all of these attempts were unsuccessful on account of crooked holes. The fourth attempt made for a hole was most successful, the well being drilled to approximately 4500′, the SPIRAL STEM being used from 500′ to bottom, or about 4000′. Practically all of this footage was drilled through very hard flinty shale, and I do not hesitate to give the Spiral Stem full credit for our success in putting down a straight hole in this hard formation where other tools had been useless.

These stems have also given wonderful results on our sidetracking and redrilling jobs in this division. We have been able to drill out through casing and sidetrack same without having a crooked hole. I believe that the SPIRAL STEM will prove a great advantage to cable tool drilling wherever used. Yours truly,

(Signed) C. A. DAILEY,
Division Superintendent.

**Prevents Crocked Holes** The SPIRAL STEM fills the hole and forces the bit to cut straight downward. This stem is now forged complete from high grade forging quality open hearth steel. Castings have been eliminated, rendering it practically unbreakable and accident proof.

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TITUSVILLE FORGE COMPANY
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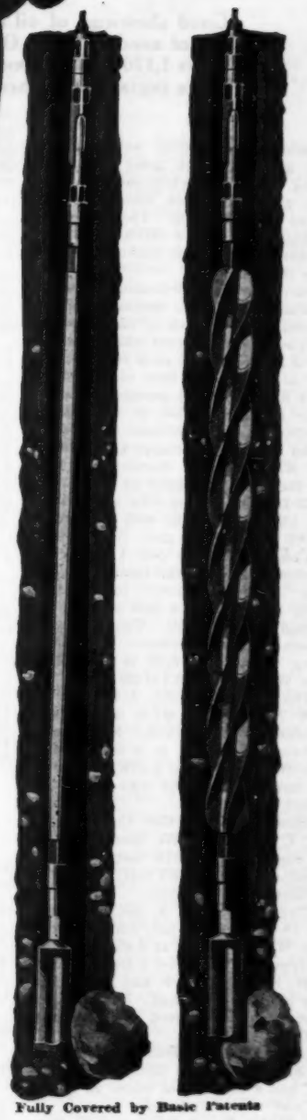
# SPIRAL STEM



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## WHAT OTHERS SAY

J. J. Conry, Carter Oil Company, Tulsa:

"Regarding the success we are having with SPIRAL STEMS, I wish to state that our men have found them very helpful, especially in country where we are troubled with crooked holes. They are also advantageous in a cavey hole and especially where you are carrying a hole full of water."

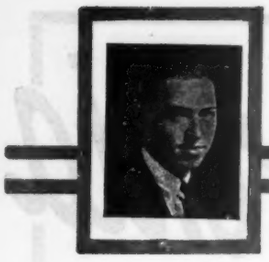
• • •

The Oil & Gas Journal news item:

"The Union Oil Company of California is drilling about 48 miles west of Raton on the Vermejo structure, is down 3150 feet and in a very hard formation. Some trouble has been had with a crooked hole but the crew now has a SPIRAL STEM and has eliminated the difficulty."

• • •

These experiences have been duplicated by most of the larger companies. SPIRAL STEMS have now been in service for 4 years and are in successful use in the United States, Roumania, Poland, Colombia, Spain, Peru, Venezuela, Argentine Republic.



# Oklahoma Field Operations

By C. D. Lockwood

**Good showings of oil and gas found in number of wells when they reached top of sands. Dixie Oil Co.'s extension well in Wewoka Field deepened and flows 1,170 bbls. Several wildcat tests appear to be failures. Production of State registers another substantial decline. Tonkawa still slumping.**

A number of interesting wells reached the top of sands with good shows in Oklahoma last week, while several other wildcats which had been watched closely, proved to be failures. The Dixie Oil Co.'s extension to the Wewoka Field was deepened, making it one of the best wells in the field.

The Mid-Continent Petroleum Corp.'s No. 1 Simon, NE cor. Section 21-10-9, an interesting test north of the Papoose Field, reached the top of the Papoose sand at 3,290 feet, and at 2 feet in had a show of 35,000,000 feet of gas, and had shut down to build storage.

In the north extension of the Cromwell Field, the Mid-Continent Petroleum Corp. and the Waite Phillips Co.'s No. 2 Brown, NE cor. SW, Section 33-11-8, reached the top of the sand at 3,322 feet and at 2 feet in drilling was stopped to pull the big pipe and the well was making 50,000,000 feet of gas.

The Comar Oil Co.'s No. 1 SW cor. SE, Section 22-23-4, in the Donahoe Pool, Masham, Pawnee County, topped the Cleveland sand at 2,344 feet and at 16 feet in had a show of oil. The well was shut down to await orders. The only producing well in the field is producing from the Wilcox sand, 3,717-26 feet.

The Dixie Oil Co.'s No. 1 Knight, C NE NW NE, Section 6-7-8, which last week extended the Wewoka Field, was drilled two feet deeper, to a total depth of 3,209 feet, and made 1,170 bbls., the first 24 hours. The sand was topped at 3,200 feet.

The Sinclair Oil & Gas Co.'s No. 1 Manley, C SE SW NW, Section 1-8-8, topped the lime at 3,975 feet and had 1,600 feet of oil, 4,060-65 feet, while the 4-inch liner was being run.

The Texas Co.'s No. 1, SE cor. SW, Section 18-17-10, got a hole full of water from the Wilcox, topped at 3,488 feet.

The Gypsy Oil Co.'s No. 1 Davis, CWL NW NW, Section 27-14-9, had a hole full of water at 3,079-3,104 feet. Drilling was discontinued at 3,170 feet, and the hole plugged.

The Magnolia Petroleum Co.'s No. 2 Ligon, SE cor. Section 25-8-7, Seminole County, had a hole full of water at 4,440-41 feet and was abandoned.

T. B. Slick's No. 1, SE cor. SW, Section 1-21-5, Pawnee County, was a dry hole in the Wilcox sand, at 3,372-3,417 feet.

During the week ended March 7, 90 wells were completed in Oklahoma, of which 48 were oil wells, 9 were gassers, the remaining 33 being dry holes. The initial production of the wells completed totaled 16,941 bbls., while the flush production of wells not completed was 5,177 bbls. There were 63 new locations made, and 189 new rigs up; while drilling wells numbered 887.

### Oklahoma Production

Production of some of larger fields in Oklahoma as of the week ended March 11 was as follows:

| Field— | Wells | Prod. |
|---|---|---|
| Burbank | 1,677 | 56,028 |
| Branan | 8 | 2,367 |
| Tonkawa | 759 | 86,540 |
| Tonkawa deep sand only | 87 | 67,100 |
| Tonkawa deep sand only March 13 | 87 | 59,982 |
| Gilcrease-Papoose | 126 | 30,262 |
| South Weleetka | 23 | 2,085 |
| Wewoka | 113 | 11,336 |
| Cromwell | 302 | 33,665 |
| Otoe | 13 | 3,474 |
| Hubbard | 4 | 655 |
| Davenport, Lincoln County | 4 | 1,170 |
| Stroud | 69 | 3,044 |
| Healdton | 1,916 | 15,800 |
| Graham-Fox | 306 | 10,300 |
| Hewitt | 795 | 16,200 |

### Tonkawa Output

Production of the Tonkawa Field by companies during the week ended March 7 was as follows:

| Company— | Wells | Prod. |
|---|---|---|
| Amerada Petroleum Corp. | 38 | 6,958 |
| Blackwell Oil & Gas Co. | 34 | 3,063 |
| Carter Oil Co. | 4 | 127 |
| Champlin Refining Co. | 2 | 12 |
| Champlin Refining Co. and Twin State Oil Co. | 1 | 10 |
| Comar Oil Co. | 361 | 36,259 |
| Cosden Oil & Gas Co. and Marland Oil Co. | 16 | 218 |
| Gypsy Oil Co. | 89 | 17,580 |
| Healdton Oil & Gas Co. | 27 | 1,144 |
| Wentz Oil Corp. | 47 | 10,446 |
| McMan Oil Co. | 2 | 1,017 |
| Pennok Oil Co. | 32 | 5,421 |
| Phillips Petroleum Co. | 3 | 111 |
| Prairie Oil & Gas Co. | 12 | 493 |
| Sinclair Oil & Gas Co. | 1 | 9 |
| T. B. Slick and Comar Oil Co. | 38 | 3,221 |
| Southwestern Petroleum Co. | 15 | 560 |
| The Texas Co | 5 | 1,510 |
| White Eagle Oil & Refining Co. | 7 | 105 |
| Total | 750 | 86,679 |
| Total previous week | 750 | 90,263 |
| Difference | | 4,416 |

Production of the deep sand at Tonkawa during the same week averaged as follows:

| | | |
|---|---|---|
| Amerada Petroleum Corp. | 7 | 6,038 |
| Pennok Oil Co. | 7 | 4,459 |
| Comar Oil Co. | 33 | 27,625 |
| Gypsy Oil Co. | 16 | 14,980 |
| T. B. Slick | 7 | 1,671 |
| Blackwell Oil & Gas Co. | 4 | 2,222 |
| Wentz Oil Corp. | 5 | 7,902 |
| The Texas Co. | 1 | 1,465 |
| Phillips Petroleum Co. | 1 | 60 |
| McMan Oil Co. | 1 | 1,014 |
| Total | 87 | 67,504 |
| Total previous week | 87 | 70,833 |
| Difference | | 3,329 |

### Papoose Production

Daily average production of the Papoose Field for the week ended March 11 was as follows by companies:

| Company— | Wells | Bbls. |
|---|---|---|
| Amerada Petroleum Corp. | 1 | 353 |
| Arkansas Fuel Oil Co. | 1 | 3 |
| Berry Petroleum Co. | 3 | 174 |
| Carter Oil Co. | 4 | 1,054 |
| Mid-Continent Petroleum Corp. | 11 | 4,591 |
| Foster Investment Co. | 5 | 630 |
| Gilcrease Oil Co. | 3 | 54 |
| Gilcrease Oil Co. and Papoose Oil Co | 1 | 5 |
| Gypsy Oil Co. | 2 | 818 |
| Independent Oil & Gas Co. | 10 | 3,861 |
| Independent Oil & Gas Co. and Atlantic Oil Producing Co. | 1 | 285 |
| Indian Territory Illuminating Oil Co. and Barnsdall Oil Corp. | 4 | 1,384 |
| Josey Oil Co. | 2 | 601 |
| Kingwood Oil Co. | 10 | 1,641 |
| Magnolia Petroleum Corp. | 2 | 47 |
| Continental Oil Corp. | 1 | 45 |
| Papoose Oil Co. | 13 | 1,048 |
| Prairie Oil & Gas Co. | 5 | 1,855 |
| Phillips Petroleum Co. | 1 | 428 |
| Robinson and Amerada Petroleum Corp. | 4 | 1,316 |
| Skelly Oil Co. | 1 | 184 |
| T. B. Slick et al | 27 | 5,920 |
| T. B. Slick and Gypsy Oil Co. | 3 | 1,675 |
| Transcontinental Oil Co. | 10 | 1,830 |
| H F. Wilcox Oil & Gas Co. | 1 | 110 |
| Total | 126 | 30,262 |
| Total previous week | 123 | 32,726 |
| Difference | 3 | 2,464 |

### South Weleetka Field

Daily average production of the South Weleetka Field, for the week ended March 11, was as follows:

| Company— | Wells | Bbls. |
|---|---|---|
| Magnolia Petroleum Co. | 3 | 166 |
| Mid-Kansas Oil & Gas Co. | 8 | 412 |
| Tidal-Osage Oil Co. | 12 | 1,507 |
| Total | 23 | 2,085 |
| Total previous week | 23 | 2,239 |
| Difference | | 154 |

### Cromwell Field

Daily average production of the Cromwell Field, for the week ended March 11, was as follows:

| Company— | Wells | Bbls. |
|---|---|---|
| Amerada Petroleum Corp. | 10 | 680 |
| Berry Petroleum Co. | 1 | 31 |
| Burke-Greis Oil Co. | 4 | 221 |
| Carter Oil Co. | 37 | 2,588 |
| Carter Oil Co. and Gardner Petroleum Co. | 6 | 50 |
| Central National Petroleum Co. | 8 | 892 |
| Continental Oil Co. | 1 | 59 |
| Mid-Continent Petroleum Corp. | 32 | 2,652 |
| Empire Gas & Fuel Co. | 4 | 208 |
| Gilliland Oil Co. et al | 8 | 99 |
| Gypsy Oil Co. | 41 | 2,679 |
| Gypsy Oil Co. and Laurel Oil & Gas Co. | 2 | 329 |
| T. B. Hoffer et al | 3 | 37 |
| Holmes & Jarvis | 1 | 5 |
| Houston Oil & Fuel Co | 2 | 521 |
| Independent Oil & Gas Co. | 3 | 38 |
| Kingwood Oil Co. and Sinclair Oil & Gas Co. | 4 | 105 |
| McMan Oil Co. | 11 | 595 |
| Mid-Kansas Oil & Gas Co. | 4 | 110 |
| Prairie Oil & Gas Co. | 6 | 248 |
| Pure Oil Co. | 10 | 133 |
| Roxana Petroleum Corp. | 21 | 1,949 |
| Shaffer Oil & Refining Co. | 8 | 366 |
| Sinclair Oil & Gas Co. and Gardner Petroleum Co. | 1 | 558 |
| Sinclair Oil & Gas Co. | 20 | 6,816 |
| Snowden & McSweeney | 3 | 432 |
| Southwestern Petroleum Co. | 15 | 7,798 |
| Superior Oil Corp. | 6 | 243 |
| Tidal-Osage Oil Co. | 12 | 1,758 |
| H. F. Wilcox Oil & Gas Co. | 7 | 110 |
| Waite Phillips Co. | 11 | 1,366 |
| Total | 302 | 33,665 |
| Total previous week | 299 | 36,997 |
| Difference | 3 | 3,332 |

### Wewoka Field

Daily average production of the Wewoka Field during the week ended March 11, was as follows:

| Company— | Wells | Bbls. |
|---|---|---|
| Berry Petroleum Co. | 1 | 382 |
| Boggs & Sykes | 7 | 1,054 |
| Dixie Oil Co | 33 | 1,898 |
| Gypsy Oil Co. | 2 | 478 |
| Homaokla Oil Co. | 2 | 49 |
| Independent Oil & Gas Co. and Atlantic Oil Producing Co. | 8 | 203 |
| Lewis & Clark | 1 | 44 |
| Magnolia Petroleum Co. | 25 | 1,931 |
| Producers & Refiners Corp. | 18 | 1,915 |
| W. R. Ramsey | 5 | 1,229 |
| W. R. Ramsey et al | 1 | 5 |
| Roxana Petroleum Corp. | 3 | 465 |
| Shaffer Oil & Refining Co. | 72 | 1,683 |
| Total | 113 | 11,336 |
| Total previous week | 110 | 10,638 |
| Difference | 3 | 698 |

### Holdenville District

Daily average pipe line runs from the Holdenville district during the week ended March 11 were as follows:

| Company— | Bbls. |
|---|---|
| Mid-Continent Petroleum Corp. | 9,737 |
| Gulf Pipe Line Co. | 8,114 |
| Magnolia Petroleum Co. | 6,732 |
| Oklahoma Pipe Line Co. | 14,036 |
| Ozark Pipe Line Co. | 5,936 |
| Prairie Oil & Gas Co. | 11,329 |
| Producers & Refiners Corp. | 2,412 |
| Shaffer Oil & Refining Co. | 2,049 |
| Sinclair Oil & Gas Co. | 12,785 |
| Empire Pipe Line Co. | 3,037 |
| Pure Pipe Line Co. | 339 |
| Consolidated Pipe Line Co. | 1,059 |
| Storage | 380 |
| Total | 77,845 |
| Total prevous week | 82,600 |
| Difference | 4,755 |

### Burbank Field

Daily average production of the Burbank Field for the week ended March 11 was as follows:

| Company— | Wells | Bbls. |
|---|---|---|
| Carter Oil Co. | 228 | 8,664 |
| Mid-Continent Petroleum Co. | 106 | 2,453 |
| Comar Oil Co. | 7 | 142 |
| Devonian Oil Co. | 15 | 221 |
| Gardner Petroleum Co. | 20 | 395 |
| Gypsy Oil Co. | 196 | 4,452 |
| Kewanee Oil & Gas Co. | 25 | 454 |
| Laurel Oil & Gas Co. | 16 | 230 |
| Lorraine Petroleum Co. | 15 | 133 |
| Midland Oil Co. | 37 | 1,176 |
| Mid-Kansas Oil & Gas Co. | 49 | 1,427 |
| Peters & Oliphant | 2 | 167 |
| Phillips Petroleum Co. | 120 | 9,140 |
| Phillips Petroleum Co. and Delmar Oil Co. | 16 | 1,388 |
| Phillips Petroleum Co. and Skelly Oil Co | 176 | 4,348 |
| Prairie Oil & Gas Co. | 106 | 2,368 |
| Producers & Refiners Corp. | 29 | 429 |
| Roxana Petroleum Corp. | 55 | 622 |
| Simons & Moore | 29 | 284 |
| Sinclair Oil & Gas Co. | 145 | 2,640 |
| Skelly Oil Co. | 31 | 846 |
| Tidal-Osage Oil Co. | 43 | 719 |
| The Texas Co. | 10 | 630 |
| Twin State Oil Co. | 24 | 884 |
| Total | 1,452 | 44,699 |

### Kay County Extension

| | | |
|---|---|---|
| George Bole | 3 | 340 |
| Carter Oil Co. | 11 | 1,624 |
| Comar Oil Co. | 19 | 1,116 |
| Mid-Continent Petroleum Corp. | 16 | 1,090 |
| Gypsy Oil Co. | 10 | 412 |
| Laurel Oil & Gas Co. | 1 | 163 |
| Mid-Kansas Oil & Gas Co. | 10 | 924 |
| Phillips Petroleum Co. | 31 | 3,589 |
| Prairie Oil & Gas Co. | 4 | 297 |
| Pure Oil Co. | 5 | 396 |
| Roxana Petroleum Corp. | 5 | 287 |
| Dye & Tomlinson | 8 | 526 |
| Skelly Oil Co. and Phillips Petroleum Co. | 20 | 342 |
| Sinclair Oil & Gas Co | 8 | 213 |
| The Texas Co. | 16 | 313 |
| Twin State Oil Co. | 15 | 1,100 |
| Total | 185 | 11,329 |
| Grand total | 1,677 | 56,028 |
| Total last week | 1,671 | 56,706 |
| Difference | 6 | 678 |

### In the Papoose Field

The Indian Territory Illuminating Oil Co. and the Barnsdall Refining Co.'s No. 1 Williams, C SW SE SE, Section 34-10-9, in the Papoose Field, was dry and abandoned at 3,125 feet. The same companies' No. 6 Williams, C SE NE SE, Section 34-10-9, topped sand at 3,309 feet, had oil at 3,311 feet, and was completed at 3,317 feet making 424 bbls. The Mid-Continent Petroleum Corp.'s No. 1 Carbage, C SE NE SW, Section 35-10-9, topped sand at 3,313 feet, and had oil from 3,317 feet to 3,327 feet, where it was making 2,250 bbls. naturally; No. 2 Carbage, C SW NE SW, same section, topped sand at 3,301 feet, and was making 650 bbls. naturally at 3,303 feet, and was good for 685 bbls. at 3,317-27 feet. The Independent Oil & Gas Co.'s No. 2 Bruner, C SW NW NW, Section 1-9-9, found the sand at 3,340 feet and was making 263 bbls. and 50,000,000 feet of gas from 3,365-82 feet. The same company's No. 4 Alexander, C SW NE NE, Section 2-9-9, topped sand at 3,337 feet, and was completed at 3,364 feet, making 20 bbls. per hour and 15,000,000 feet of gas. T. B. Slick's No. 7 Bruner, C NE SW NW, Section 2-9-9, was good for 300 bbls. naturally from sand at 3,315-34 feet. The same owner's No. 9 Bruner, C SW SW NW, Section 2-9-9, topped sand at 3,310 feet, and had pay from 3,310 feet to 3,317 feet, making 30 bbls. per hour; when deepened 3 feet, it was drowned by bottom water. T. B. Slick's No. 3 Grayson, C NE SW NW, Section 3-9-9, was making 500 bbls. naturally from sand at 3,295-3,312 feet; No. 3 Grayson, C NW NW SE, same section, was good for 1,587 feet from sand at 3,302-14 feet. The Phillips Petroleum Co.'s No. 2 Arbor, C NE NE SW, Section 3-9-9, was abandoned on account of casing trouble at 1,620 feet, and a twin started. T. B. Slick's No. 4 Scott, C SE NW NE, Section 3-9-9, was dry and abandoned at 3,324 feet. The Mid-Continent Petroleum Corp.'s No. 9 Alexander, C SW NW NW, Section 3-9-9, topped sand at 3,288 feet, had gas at 3,300 feet, and oil from 3,325 feet to 3,329 feet, where it was making 30 bbls. an hour.

### Drilling Operations

The Tidal-Osage Oil Co. had a rig up from No. 3 Harjo, SW cor. NW, Section 3-9-11, and was spudding in No. 5 Baker, C SW SW SW, Section 3-9-11. The Magnolia Petroleum Co. had a rig on the ground for No. 2 Harjo, C SW SE SW, Section 4-9-11, and was spudding in No. 4 Byrd, C SE SE SE, Section 4-9-11. The Mid-Kansas Oil & Gas Co. was spudding in No. 3 Byrd, C NW NE SE, Section 4-9-11. The Phillips Petroleum Co. has abandoned No. 2 Bruner, C SE SW NE, Section 34-10-9, a rig. The Prairie Oil & Gas Co. had a rig on the ground for No. 5 Vincent "A" C NW SW SW, Section 34-10-9. The Amerada Petroleum Corp.'s No. 1 Dacon, C SE SE SE, Section 36-10-9, was drilling at 300 feet. The Amerada Petroleum Corp. and the Gilcrease Oil Co.'s No. 2 Harjo, C NW SW SW, Section 36-10-9, was drilling at 330 feet; No. 3 Harjo, C SE SW SW, Section 36-10-9, was drilling at 350 feet. The Independent Oil & Gas Co.'s No. 4 Bruner, C SE NE NW, Section 1-9-9, is having a rig built. The Indian Territory Illuminating Oil Co. and the Barnsdall Oil Corp.'s No. 1 Anderson, C NW NW SW, Section 1-9-9, was drilling at 800 feet. The Josey Oil Co. and the Margay Oil Co.'s No. 2 Arber, C SW SW NW.

Section 1-9-9, was drilling at 230 feet. The Minnehoma Oil Co. was spudding in No. 1 Cain, C SW NW NE, Section 1-9-9. The Independent Oil & Gas Co.'s No. 7 Alexander, C SE SW NE, Section 2-9-9, was drilling at 780 feet; No. 7 Alexander, C SW SE NE, Section 2-9-9, was drilling at 300 feet, and No. 8 Alexander, C SE SE NE, Section 2-9-9, was drilling at 505 feet. T. B. Slick had rigs on the ground for No. 10 Bruner, C SE SW NW, Section 2-9-9, and No. 11, C SW SE NW, same section. The Phillips Petroleum Co. was spudding in No. 2-A Arber, C NE NE SE, Section 3-9-9.

**In the Cromwell Field**

The Continental Oil Co.'s No. 1 Pierce, C SW SW SE, Section 33-11-8, in the northern part of the Cromwell Field, was completed, with sand at 3,290-3,391 feet, making 65,000,000 feet of gas and 50 bbls. of oil. The Carter Oil Co.'s No. 3 Dunn, C SW NW NW, Section 3-10-8, was making 1,459 bbls. naturally, the sand being at 3,373-3,441 feet. The Cosden Oil & Gas Co.'s No. 13 Toney, C SW SE SW, Section 4-10-8, was dry at 3,410 feet. The Southwestern Petroleum Co.'s No. 8 Jackson, C NW SW SE, Section 4-10-8, was making 816 bbls. naturally from sand at 3,362-3,450 feet. The Carter Oil Co.'s No. 2 Little, C SW SW NE, Section 10-10-8, had sand at 3,323-3,465 feet, and was making 15 bbls. naturally. The Cosden Oil & Gas Co.'s No. 3 Harjo, C SE NW SE, Section 15-10-8, was completed, sand being at 3,340-3,495 feet, and making 40 bbls. naturally. The same company's No. 6 Yarhola, C NW SE SE, Section 15-10-8, topped sand at 3,506 feet, and had oil from 3,542 feet to 3,547 feet, where it was making 1,000 bbls.

The Sinclair Oil & Gas Co. and the Gardner Petroleum Co.'s No. 7 Hill, C SE NW SW, Section 34-11-8, was drilling at 340 feet. The Carter Oil Co.'s No. 10 Dunn, C NE SW NW, Section 3-10-8, was spudding. The Sinclair Oil & Gas Co.'s No. 4 Fixico, C SW NE SE, Section 5-10-8, was drilling at 200 feet.

**Osage County**

Seaman and others' No. 1-A, SE cor. NW, Section 29-27-8, in Osage County, was dry and abandoned at 2,802 feet. Breene, Markham & McKinney's No. 11, SW cor. NE SW NW, Section 23-21-10, made 100 bbls. daily after a 110-quart shot in the Peru sand at 1,613-39 feet. The Indian Territory Illuminating Oil Co.'s No. 2, NE cor. NW, Section 34-29-11, had gas at 937-42 feet, shale break to 945 feet, and the Peru sand from 945 to 964 feet. After a shot of 90 quarts, it was good for 20 bbls. Duffield & Howard's No. 1, NW cor. SW SE, Section 28-28-11, had the Peru sand at 964-1,016 feet, and was good for 15 bbls. after a 210-quart shot at 964-1,000 feet. The Osage Petroleum Co.'s No. 1, NE cor. SE, Section 6-28-12, had the Peru sand at 823-28 feet, which was dry. It was shut down at 918 feet, 3 feet in the big lime. The Owen-Osage Oil Co.'s No. 313, NW cor. Section 9-27-12, was dry at 1,927 feet. M. Grace Maxwell's No. 2, SW cor. SE SW, Section 5-24-11, topped the Mississippi lime at 1,802 feet, was drilled to 2,425 feet, and plugged back to the Bartlesville at 1,740-55 feet, where it was good for 10 bbls. after a shot of 120 quarts.

**New Operations**

The Sinclair Oil & Gas Co. had a rig up for No. 1, NE cor. SW, Section 6-27-7. E. B. Lawson's No. 11, CWL NW, Section 28-25-8, was drilling at 400 feet. Foster, Davis and others' No. 9, SE cor. SW NE, Section 17-25-9, was drilling at 1,300 feet. The Gilliland Oil Co. was spudding in No. 1, NW cor. NE NW NW, Section 20-25-9. The Mid-Co. Petroleum Co. had a machine up for No. 1, NE cor. SE, Section 21-21-10. Breene, Markham & McKinney's No. 4, SE cor. SW SE NE, Section 22-21-10, was drilling at 400 feet. The Skelly Oil Co. had a rig up for No. 16, CWL SW, Section 34-22-12. Titus and others' No. 7, CNL NE, Section 6-21-11, topped the Mississippi lime at 1,780 feet, and found the second break at 2,068-2,130 feet; it was good for 25 bbls. on the swab. J. H Alexander and others had a machine on the ground for No. 1, SW cor. SE SW NE, Section 9-21-12. Howard, Duffield & Berlin's No. 7, NW cor. NE NW NW, Section 15-21-12, was drilling at 900 feet. The Selby Oil & Gas Co.'s No. 7, NE cor. NW NE NW, Section 16-21-12, was drilling at 1,300 feet. R. G. Gillespie and others' No. 14, SW cor. NW SW SE, Section 31-21-12, was drilling at 1,000 feet. Grimes & Gillespie were rigging up a twin well to No. 11, SE cor. Section 32-21-12. R. G. Gillespie's No. 24, NE cor. NW NE NE, Section 6-20-12, was drilling at 960 feet The Oklahoma Natural Gas Co. was spudding in No. 678, CEL NE NE SW, Section 29-20-12. The Barnsdall Oil Corp.'s No. 11, C S half SE SE, Section 5-20-12, was drilling at 1,050 feet.

**Kay County**

The Comar Oil Co.'s No. 3 McCormick, NE cor. SE, Section 29-21-1w. in Kay County, was completed, making 122 bbls. naturally from sand at 1,999-2,005 feet. The Marland Oil Co.'s No. 2 Thomas, SE cor. SW SW, Section 15-25-2w, had 7,000,000 feet of gas from sand at 3,960-62 feet. The Blackwell Oil & Gas Co.'s No. 1 Kumler. SE cor. Section 9-27-1w, was making 60 bbls. of oil and 40 bbls. of water from sand at 2,385-87 feet.

The Herbert Oil Co.'s No. 1, SE cor. SW SE SW, Section 5-28-1w, was drilling at 300 feet. The National Union Oil Co. was rigging up No. 1 Glasgow, SW cor. NW, Section 6-26-1w. The Blackwell Oil & Gas Co.'s No. 1 Raney, NW cor. Section 7-26-1w, was drilling at 940 feet, with gas no longer coming from the sand at 883-96 feet, which originally made 10,000,000 feet daily. The Marland Oil Co. and the Amerada Petroleum Corp.'s No. 1 Richmond, SE cor. NW, Section 1-26-2w, was spudding at 90 feet. The Marland Oil Co.'s No. 4 North, SE cor. NW NE, Section 12-26-2w, was drilling at 225 feet. The O'Kansas Oil Co. had a rig on the ground for No. 1 Chambers, NW cor. Section 32-27-1w. The Marland Oil Co.'s No. 1 Chambers, SW cor. NW NE, Section 9-25-2w, was making 1,500,000 feet of gas at 1,160 feet, and was setting the 10-inch casing.

**Tonkawa Operations**

T. B. Slick was spudding in No. 1 Siler, SW cor. NW SE, Section 27-25-1w, in the Tonkawa Field. The Comar Oil Co.'s No. 11-W Blubaugh "C" was abandoned at 615 feet.

**Grant County**

Travis and others' No. 1 Fiss, CSL SE NW NW, Section 30-27-4w, in Grant County, was dry and abandoned at 1,250 feet.

**Pawnee County**

Bailey and others' No. 1-A Monahan, NW cor. SW NW SE, Section 15-20-7, Pawnee County, was dry and abandoned at 3,190 feet. The Southwestern Oil Fields Co.'s No. 12, SE cor. NE NW, Section 24-20-8, was making 3,000,000 feet of gas and had 1,400 feet of oil in the hole from sand at 2,792-95 feet. The Prairie Oil & Gas Co.'s No. 5 Donahoe, SW cor. Section 15-20-6, was shut in for 3,500,000 feet of gas at 3,018-54 feet.

C. E. Burger's No. 1 school land, NW cor. SE, Section 33-21-8, was drilling at 1,100 feet. C. F. Noble's No. 2 Ruble, SE cor. SW SE, Section 9-20-7, topped a sand at 2,453 feet, and was making 3,500,000 feet of gas drilling at 2,463 feet in sand. J. F. Markham, Jr., had a rig on the ground for No. 1 Head, NE cor. SE SW, Section 24-20-8. Holmes & Burton's No. 1 Stoneman, NW cor. SE SE, Section 28-20-9, was drilling in sand at 1,342 feet, in sand topped at 1,300 feet, and was making a show of gas. The Acco Oil Co.'s No. 1 Smith, SW cor. NW, Section 26-23-5, was spudding at 150 feet. Jim Glenn's No. 4 Burgman, C NW SE SE, Section 16-20-6, was spudding in. The Fern Oil Co. had a rig up for No. 2 Lesher, NE cor. NW NE, Section 21-20-6. The Magnolia Petroleum Co.'s No. 7 Lesher, NW cor. NE NE, Section 21-20-6, was drilling at 330 feet.

**Payne County**

The Shaffer Oil & Refining Co.'s No. 11 Laughlin, NE cor. SE NE, Section 2-18-5, Payne County, was shut in for 16,500,000 feet of gas at 1,248-1,309 feet.

The Shaffer Oil & Refining Co.'s No. 9, NW cor. NE, Section 2-18-5, was drilling at 3,320 feet. The same company had a rig up for No. 12, SE cor. NE NE, Section 2-18-5.

**Burbank Operations**

New and drilling operations in the Burbank Field include Phillips Petroleum Co.'s No. 5, CWL NW SW SW, Section 12-27-5, drilling at 820 feet; No. 6, C NE SW SW, same section, 730 feet; No. 7, C NW SE SW, same section, 1,050 feet; Carter Oil Co.'s No. 11, CWL SW NW NE, Section 13-27-5, 300 feet; No. 12, CNL NE NW NE, same section, 650 feet; No. 13, C SE NW NE, same section, 300 feet; No. 13, CNL NW NE NW, same section, 820 feet; No. 14, NE cor. NW, same section, 830 feet; No. 15, C SW NE NW, same section, 700 feet; No. 16, CEL SE NE NW, same section, 230 feet; Skelly Oil Co. and others' No. 1 Shidler, CEL NE SE SW, Section 22-27-5, rig on ground; Phillips Petroleum Co. and others' No. 15 CSL SW SE NW, Section 25-27-5, drilling at 300 feet; Phillips Petroleum Co.'s No. 12, CEL SE NE NE, Section 18-27-6, rig up; The Texas Co.'s No. 11, CNL NE NW, Section 18-27-6, drilling at 350 feet; Carter Oil Co.'s No. 14, C NW SE SE, Section 16-26-6, rigging up; Lewis Oil Co.'s No. 3, CNL NW NE NE, Section 21-26-6, drilling at 700 feet.

**Craig County**

Fitzpatrick and others' No. 1, CWL SW, Section 33-29-20, Craig County, was drilling at 460 feet.

**Tulsa County**

The Choctaw Oil Producing Co. had a rig on the ground for No. 5 Roland, CEL SE SE, Section 13-16-12. Tulsa, County.

**Creek County**

The Sinclair Oil & Gas Co.'s No. 34 Dunson, SW cor. NE SW SW, Section 34-17-7, had the Bartlesville sand at 2,761-2,801 feet and made 10 bbls. after a 20-quart shot at 2,756-86 feet. The Olean Petroleum Co.'s No. 8 Washington, NW cor. SE SW, Section 32-17-8, made 90 bbls. naturally and 177 bbls. after an 80-quart shot at 3,468-96 feet. The Savoy Oil Co.'s No. 4 Johnson, NE cor. SW NE, Section 23-17-8, was shot with 30 quarts at 2,664-94 feet; there was a second sand at 2,804-05 feet; the well was making 25 bbls. The Laurel Oil & Gas Co.'s No. 8 Knoll, NW cor. SE SW, Section 22-16-8, was dry and abandoned at 3,118 feet. Jackson & Wise's No. 3 Hendrickson, SE cor. NE NW, Section 21-16-9 had oilat 2,983-91 feet, and drilled to 2,-993 feet; the well was plugged 2 feet, and was making 90 bbls. naturally. The Jomack Oil Co.'s No. 10-A Carr, C NW SE NE, Section 26-16-9, had sand from 2,990-3,007 feet, with oil in the first 8 feet; it was good for 35 bbls. after two 10-quart shots.

Foster and others were rigging up tools for No. 1-A Adams, SE cor. NE NW, Section 17-16-12. The Oklahoma Producing & Refining Co.'s No. 1 Steel, NE cor. SW, Section 6-15-7, had 15,000,000 feet of gas from sand at 3,571 feet, and was drilling ahead at 3,616 feet. The Dabney Petroleum Co. was building a rig for No. 1 McHenry, C SW SW NE, Section 15-14-10. The Gled Oil Co. was spudding in No. 1 Miller, SE cor NE NE, Section 14-19-8. The Sinclair Oil & Gas Co. was building a rig to deepen No. 8 Bruner, SE cor. NE SE, Section 33-17-8, old total depth 1,456 feet. The Midwest & Gulf Co.'s No. 1 Murrell, SW cor. NE, Section 17-19-9, was rigging up. H. V. Bartlett's No. 1 West, CNL NW NW, Section 17-18-9, was drilling at 2,527 feet in sand topped at 2,510 feet, and spraying 15 bbls. of oil. The Atlantic Oil Producing Co. had a rig up for No. 3 Johnson, CSL SW SE, Section 14-17-8. The Olean Petroleum Co. had a rig up for No. 3 Yarholn, NE cor. SE, Section 31-17-8, and was spudding in No. 3 Washington, SW cor. NW SW, Section 32-17-8. The Jomack Oil Co.'s No. 2 Timothy, NW cor. NE NE, Section 1-16-8, was drilling at 800 feet. D. B. Mason had a rig on the ground for No. 1 Doyle, SE cor. NW NE, Section 21-17-9. The Prairie Oil & Gas Co. has a rig up for No. 4 Self, C NE SE SE, Section 21-17-9. Wood & Farren had a rig up for No. 3, C NE NW SE, Section 21-17-9. Bob Slater and others' No. 1-A Ralston, NE cor. SE SE, Section 1-16-9, was drilling at 500 feet.

**Lincoln County**

The Sinclair Oil & Gas Co. had a rig on the ground for No. 1 Booth, C SE NE SW, Section 34-15-5, Lincoln County. The Magnolia Petroleum Co. had a rig up for No. 3 Lain, NW cor. SW NE, Section 3-14-5. The Wilcox Oil & Gas

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# Kansas Oil Field News

By C. D. Lockwood

While the Wentz Oil Corp.'s well across the river from the Rainbow Bend Field, between it and the Graham Field, furnished a considerable amount of interest for a time until the tools were lost in the hole and deepening was made impossible until they can be recovered, most of the news coming from Kansas was not of an encouraging nature, several interesting tests having turned out to be failures.

The Wentz well, No. 1 Thurlow, C NE SE, Section 17-33-3, which is a half mile from the nearest producing well in the Rainbow Bend Pool, topped sand at 3,168 feet, and at 3,177 feet was making 9,-000,000 feet of gas when the tools were lost.

The Gypsy Oil Co.'s No. 1 Hanson, NE cor. SW SW, Section 29-33-3, which is a mile south of the Rainbow Bend Field, was apparently a dry hole, having topped the sand at 3,500 feet. It was drilling at 3,655 feet with nothing showing. The Waite Phillips Co. and others' No. 1 Johnson, NE cor. NW, Section 29-33-3, which offsets light producers to the north and east, also looked like a dry hole, having topped sand at 3,236 feet and drilling at 3,245 feet with nothing showing.

Hartman, Skaer & Johnson's No. 1 Hunsaker, NW cor. SE, Section 29-29-2, Sedgwick County, had 2,500 feet of oil and 400 feet of water in the hole from sand at 3,545-57 feet. Drilling two feet farther in hard, white sand did not increase the water or oil in the well.

Overlease and Springstead's No. 1 Sterling, C NE SW, Section 5-35-5, had a showing of 3,000,000 feet of gas in sand topped at 1,820 feet, when the hole caved over the tools, holding up the test.

The Gypsy Oil Co.'s No. 5 Shannon, NE cor. Section 24-32-4, in the Winfield Field, Cowley County, topped the deep sand at 2,966 feet, and was drilled to 3,030 feet, when a shot of 100 quarts bridged the hole. It was later swabbing at the rate of 100 bbls. a day.

During the week ended March 7, 26 wells were completed in Kansas, of which 13 were oil wells, the same number being dry; production of the new wells was 1,483 bbls. Locations made numbered 67, while there were 101 new rigs up; there were 252 wells drilling.

**Cowley County**

Martin & Wilson's No. 4 Eastman, SW cor. NW SW, Section 5-31-6, was good for 35 bbls. at 2,790-2,840 feet. Roth and others' No. 1 Hannah, NW cor. NE, Section 4-30-8, had sand at 2,114-32 feet, and was estimated good for 70 bbls. after a 140-quart shot; it is being put on the pump. The Marland Oil Co.'s No. 3 Wood, SE cor. NE, Section 9-33-3, had the first break in the lime from 3,228-30 feet, and made 372 bbls. in two days. The same company's No. 4 Wood, NW cor. NE NE, Section 9-33-3, topped the Wilcox at 3,515 feet, and was drilled to 3,530 feet, where it made 35 bbls. of oil and 50 bbls. of water in 12 hours. The Waite Phillips Co. and others' No. 1 Beebe, C NW NW NE, Section 29-33-3, topped the sand at 3,232 feet, and had first oil at 3,260 feet. It was swabbing 130 bbls. after shots of 5, 10 and 20

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# California Field Operations

By L. P. Stockman

**Union and Barnsdall complete 1,123-bbl. well at Rosecrans. Seal Beach probably will be center of activity following acquisition of controlling interest in United Oil Co. by Hellman interests. Production at Dominguez may have reached peak as drilling will be restricted. To test Ventura further.**

LOS ANGELES, Cal., March 14.—The recent purchase of the controlling stock in the United Oil Co. by the Hellman banking interests upset the plans of several California companies to lease the Hellman tract at Seal Beach and, while one company had the property practically tied up, the final signatures were never secured. The Hellman interests paid approximately $50 a share for the C. F. Whittier and J. M. Kent stock, which gave them control of the United, which in turn, controls the Richfield Oil Co. through stock ownership. Par value of the stock acquired is $25 a share. The United has a crude oil production of approximately 6,000 bbls. a day in southern California and purchases a considerable quantity in the San Joaquin Valley. Through its stock ownership in the Richfield Oil Co., the United operates two refineries, one at Bakersfield and a more modern one at Hynes, near Long Beach. It is the fifth largest marketer of gasoline in California, having reached this enviable position in 1924. The company is still maintaining the ratio established last year.

The largest marketer in the State is, of course, the Standard. The Shell comes next, followed by the Associated and Union in the order named. Richfield stations are quite numerous in southern California and the company is expanding all along the Pacific Coast. The service stations are unique in that each one has a battery and repair shop in connection, operated, of course, by outside interests. The United made a nice reputation at Long Beach, where fairly large production has been built up. The company's holdings at Dominguez are unfortunately located out on the edge of the structure but, notwithstanding this handicap, a daily production of about 1,000 bbls. has been secured. The United's output at Long Beach is declining in sympathy with the general field drop, and this, together with the fact that nothing big can be expected at Dominguez would, within a short time, restrict the operations of the company and stop any further expansion, unless another source of crude oil was secured. The Hellman interests, by securing control of the company, can now supply its needs by leasing the Seal Beach structure to the company or selling it any production secured thereon.

### Possibilities at Seal Beach

There is no question but that there is a field at Seal Beach, the Shell having already finished one well in that section. This concern's No. 1 Bryant has been producing oil in small amounts for several months. The hole is on the edge of the structure and as a result the crude is dirty. The well's present output is 65 bbls. of oil and 1,500 bbls. of water. Practically all of the potential oil acreage at Seal Beach is in the Hellman estate and, while it may be possible for the Shell to get a few edge wells, it will not be able to profit by its discovery to any large extent. Nos. 2 and 3 on the Bryant lease, now being drilled, will tell just how much the Shell can expect in the future. They are both more favorably located than No. 1 and should show a better production. It can be safely said, however, that the Hellman interests control the field. Just what action will be taken toward developing it, however, remains to be seen. Judging by the negotiations which the Hellman interests had with one large company before securing the United stock, it is believed that Hellman will allow the United to drill up the Seal Beach acreage and permit the company to buy the output. Deductions will be allowed, of course, for drilling expenses. The United, under this arrangement, would have no royalty interest whatever in the production, each barrel run from the lease being a straight purchase.

### Rosecrans

There was one new well added to the producing list at Rosecrans during the past week and the Union, in addition to increasing its own output, added 1,123 bbls. to the field's daily production. The Union's latest success in this field is No. 8 Howard Park, brought in from 4,400 feet after being finished with a 6¼-inch oil string landed at 4,389 feet. The completion of this hole increases the number of producers on this lease to six, the aggregate production being approximately 2,500 bbls. a day. The Union has a 70 per cent interest in this property and the Barnsdall Oil Corp. 30 per cent. Two new holes, Nos. 12 and 13, were spudded in on this lease yesterday, while the finishing touches are being put on the rigs for Nos. 14 and 15. These holes are all in the northern part of the lease and while the company would rather hold off for some time, the amount of drilling being done to the north practically forces the company to enlarge its drilling program to prevent drainage. The Union failed to secure a water shut off in No. 1 Zins at 5,692 feet and will recement within the next few days. No. 1 Gordon the company's deep hole in the southwestern part of the field, is still dry at 6,590 feet. No. 1 Trust, a little northwest, is coring at 5,827 feet, previous showings not having proven productive.

The General Petroleum's No. 1 Amestoy, offsetting No. 1 Trust to the west, is going ahead at 6,685 feet, the company having resumed work after an unsuccessful production test at 6,666 feet. The General Petroleum is rigging up No. 1-A Vaughn and is hauling in material for No. 3. Nos. 1 and 2 on this lease have been abandoned because of mechanical trouble. The Barnsdall is building a rig for No. 5 O'Dea and although the derrick for No. 4 has been standing for some time, this hole has not yet been spudded in. On the Rosecrans lease the company is making good footage in No. 5 at 3,270 feet, but is held up in No. 4 with a fishing job at 4,404 feet. George F. Getty is being held up in both Nos. 1 and 2 Athens with mechanical trouble but is going ahead in Nos. 4 and 5 and building a rig for No. 6 The Marine also has two fishing jobs on its hands, No. 32 at 4,385 feet and No. 33 at 4,409 feet. Both are in proven territory and should average at least 500 bbls. each upon completion. The company is drilling ahead in Nos. 34 and 35 and is rigging up Nos. 40 and 42.

### Several Completions Soon

No. 1 Books of the Mohawk Oil Co. made a short flow from 4,362 feet but it has been recemented because of water trouble. The company has just spudded in No. 1 Bateman and while a rig has been erected for No. 1 Dixon, the crew has not yet been put to work. The Petroleum Midway, California Petroleum, is getting quite deep in all six of its drillers and will probably finish several of them simultaneously some time during the next 30 days. No. 1 Baskin at 4,790 feet, No. 1-A Ducommon at 4,720 feet, No. 1 Folsom at 5,002 feet, No. 1 Fox Community at 4,419 feet, No. 1 Kreitz Community at 4,007 feet and No. 1 McCormick at 4,840 feet are the holes upon which the company is concentrating its attention. The Star Petroleum killed No. 1 Shoemaker, which flowed for four hours at the rate of 25 bbls. an hour from 4,850 feet, in order to deepen it. C. L. Barnes, a rather successful operator at Long Beach, has staked three locations in the northwest area and it is reported that construction of these rigs will be started within the next few days.

The Golden State Refining Co. is starting its first attempt in the producing game and has located a well offsetting W. H. Fisher's No. 8 Athens, now drilling ahead at 4,359 feet. The Julian Petroleum is still attempting to effect a water shut off in well No. 1 at 4,922 feet. It is at present flowing to sump at the rate of 500 bbls. a day, 60 per cent of the fluid however, being water. If the production does not clean up within the next few days the hole will be recemented. No. 2 on this same lease has reached a depth of 3,550 feet, while rigs are going up for Nos. 3 and 4. The Shell is still in a very hard sand in No. 1 Leonis, picked up a week or so ago, and as a result, only a few feet were added to the depth of this wildcat during the past seven days. Drilling will be resumed at 5,422 feet. In the northeastern part of the field the Standard's No. 1 Cowan is still dry at 6,055 feet.

### Dominguez

Production at Dominguez has undoubtedly reached its maximum. Although the output could, by additional drilling, be stepped up far beyond the maximum reached to date, this will probably not be done because neither the Union nor Shell, the principal operators in the district, requires any additional oil at present. The recent completion of No. 5 De Francis by the Associated completes this company's drilling program at Dominguez and although the rig has been erected for No. 7, it will not be drilled for the present. The only operators with undeveloped acreage, with the exception of the Union and Shell, are the Marland and United Oil Cos. These two concerns are out on the very edge of the structure and, because of edgewater, will probably not finish more than two additional wells. Their effect on the field's production will therefore be negligible. The Marland, with a present daily production of 1,750 bbls., is working on three holes. No. 4 Dominguez, an edge well, has been wet for several months, while No. 6 is held up with a fishing job at 4,330 feet. No. 7, scheduled for a deep test, is now drilling ahead at 3,800 feet.

The United has a daily production of a little better than 1,000 bbls. and one driller held up because of water trouble, No. 2 at 4,442 feet. The Union is only doing a small amount of development work in this area, although its Callender and Hellman leases are highly productive. The former is contributing about 6,000 bbls. and the latter about 5,000 bbls. a day to the company's output. The company has a 50 per cent interest with the Shell, however, in the Reyes property and derives a good production from this lease. On the Callender property the Union is working on No. 5 at 4,878 feet and has just killed No. 8, which proved wet at 3,882 feet. There are two drillers on the Carson lease, No. 2 at 4,779 feet and No. 3 at 4,253 feet. No. 3 Hellman is being cleaned out at 4,263 feet, while No. 11, a new well, is going ahead at 3,900 feet. A rig has been erected for No. 10 but the hole has not yet been spudded in.

The Shell is doing as much development work as all the other companies combined, although it is by no means conducting an intensive drilling campaign. The company is just maintaining a steady drilling list. Two holes might be dropped from the Shell's string as dry holes, as neither will ever make a commercial producer. No. 2 Childs at 4,539 feet and No. 10 Reyes at 3,977 feet are both edge wells and although the latter started off at a good rate upon its completion several months ago, it suddenly turned to water and the company has never been able to effect a shut off. On the Manuel lease, No. 1 at 4,479 feet and No. 5 at 4,010 feet are also held up because of water, the trouble in this case being bottom water. The Shell has two potential producers on the Reyes property, No. 23 at 4,101 feet and No. 25 at 4,103 feet. These two holes should be on production shortly and if a water shut off has been secured in No. 21, now standing cemented for the third time at 3,995 feet, the company's producing list will

Following is a list of tankers, date departed, destination, kind of cargo and amount in barrels:

**TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS**

| | |
|---|---|
| Crampton Anderson, March 3, New Orleans, refined | 75,731 |
| F. Q. Barstow, March 3, New York, crude | 114,117 |
| Gulftrade, March 4, Philadelphia, refined | 75,762 |
| Pennsylvania Sun, March 7, Philadelphia, crude | 90,172 |
| R. J. Hanna, March 8, New York, crude | 76,417 |
| Agwisun, March 9, Boston, crude | 80,536 |
| **Coastwise** | |
| W. S. Miller, March 2, Richmond, crude | 74,035 |
| Capt. A. F. Lucas, March 3, Point Wells, refined | 30,080 |
| J. A. Moffett, March 3, Portland, fuel | 65,035 |
| Los Angeles, March 3, Martinez, crude | 35,444 |
| Utacarbon, March 4, Vancouver, fuel | 70,881 |
| K. R. Kingsbury, March 5, Richmond, crude | 85,711 |
| Liebre, March 5, Portland, fuel | 62,891 |
| W. S. Miller, March 6, Richmond, crude | 74,961 |
| Lebec, March 8, Portland, fuel | 67,180 |
| Tejon, March 8, Portland, fuel | 54,870 |
| Los Angeles, March 8, Martinez, crude | 75,223 |
| Los Alamos, March 8, Seattle, refined | 41,037 |
| **Exports** | |
| Acasta (Br.), March 2, Balboa, fuel | 45,940 |
| Emedio, March 2, England, refined | 72,811 |
| Tamaha (Br.), March 3, Orient, fuel | 57,032 |
| Ampularia (Br.), March 5, England, refined | 68,159 |
| San Quirino (Br.), March 5, England, refined | 67,128 |
| Anomia (Br.), March 7, Japan, fuel | 45,982 |
| San Fabian (Br.), March 7, Chile, fuel | 105,604 |
| Mina Brea (Br.), March 8, Vancouver, crude | 40,487 |
| **From Ventura** | |
| Frank G. Drum, March 6, Avon, crude | 72,146 |
| Frank H. Buck, March 7, Avon, crude | 63,890 |
| **From San Francisco** | |
| Robt. E. Hopkins, March 2, Seattle, fuel | 70,445 |
| Atlas, March 3, Astoria, refined | 14,715 |
| India Arrow, March 4, Hongkong, refined | 86,143 |
| Agwihavre, March 5, New York, tops | 96,040 |
| Lubrico, March 5, Point Wells, fuel | 84,906 |
| Argyle, March 6, Santa Rosalia, fuel | 29,567 |
| Empire Arrow, March 8, New York, refined | 98,379 |
| China Arrow, March 8, Hongkong, refined | 93,142 |
| Col. E. L. Drake, March 8, Astoria, refined | 37,445 |

# His Approval

UNCLE SAM has shown his approval and appreciation of the long continued efforts of Westinghouse engineers to produce and perfect the best Electric Cable Tool Drilling Equipment and System by issuing of Patent No. 1,511,990.

Westinghouse license is granted when Westinghouse motors and control are employed in this approved system either for new or existing installations.

U. S. Patent 1,511,990 has been issued to the Westinghouse Electric and Manufacturing Company covering sale and use of equipment used in the drilling system, which is known throughout the Petroleum Industry as "Twin Motor Drilling Equipment."

Westinghouse Electric & Manufacturing Company
East Pittsburgh Pennsylvania
Sales Offices in All Principal Cities of
the United States and Foreign Countries

# Westinghouse

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be augmented by three instead of two. No. 24 at 3,735 feet and No. 26 at 3,667 feet are also favorably located and should be early completions. The company is making a very determined effort to finish No. 1 Hellman, a deep hole drilled to 6,075 feet, but so far has failed because of water.

**Inglewood**

There were two new wells finished and another recompleted in the past seven days at Inglewood. The Standard finished one of the new producers by completing No. 2 well on Los Angeles Investment Lease No. 2 at 1,950 feet. It started off pumping 106 bbls. of 14.1 gravity oil, which showed a cut of 15 per cent. It is believed, however, that the output will increase as soon as the well has cleaned itself out. A little less than 5 per cent of the cut is water and the balance sand. No. 1 on this lease, held up with a fishing job at 5,197 feet, looks very discouraging for deep production. The field's recompletion also stands to the credit of the Standard. It was No. 3 on Los Angeles Investment Lease No. 1 which ran into bottom water some time ago at 2,519 feet. Upon being returned to production it pumped 128 bbls. of 17.1 gravity oil which cut 2 per cent. The Standard has started work on Nos. 4 and 5 on this lease and is grading for No. 6. The company picked up the pay in No. 1 on Vickers lease No. 2 at 2,290 feet and cemented a string of 10-inch. This well will undoubtedly be finished within the next two weeks. On Vickers Lease No. 1 a slight showing was found in No. 2 at 1,240 feet and in No. 3 at 1,721 feet. Both have been cemented and should be drilled out within the next week or ten days. No hole was made in either No. 1 Stocker at 4,471 feet or No. 1 Potter-Smith at 6,036 feet, due to mechanical trouble.

Oscar Howard finished his first well in this field and has the honor of completing the best one finished in the field to date, at least from a production standpoint. His No. 1 Machada was drilled to 2,488 feet and finished with a 6¼-inch oil string landed on bottem. The initial pumping was 358 bbls. of 16.2 gravity oil, which showed a cut of a little less than 3 per cent. Howard immediately staked location and hauled in material for No. 2. The Petroleum Midway cemented both No. 1 Moynier and No. 1 Smith on top of the sand. The former showed at 1,301 feet, while the latter required 2,400 feet of hole. The company made excellent time with No. 1 Moynier and required but six days from spudding to cementing. The Petroleum Securities, Doheny, only spudded in one new hole, although rigs have been erected for three others. The company started on No. 3 Cone but suspended operations at 610 feet because of a water shortage.

The Pan American did not secure a water shut off in No. 2 Sentous, drilled to 2,061 feet, and will recement. No. 7 is all rigged up but has not been spudded in due to the shortage of water. The Pacific Oil Co. has suspended operations on No. 2 Baldwin in a tough shale at 4,076 feet. This hole is some distance from production and, since it showed no indications of any kind, the suspension is not surprising. The Mohawk cemented No. 2 Machada at 2,289 feet, a string of 8¼-inch being landed at 2,280 feet. Judging by the log of this well, No. 2 will be somewhat deeper than No. 1, which is at present doing 225 bbls. from 2,344 feet. The Associated has started constructing rigs for Nos. 1 and 2 on its Vickers lease and will start drilling as soon as practicable. The Universal Oil Co. took a core in No. 1 Youngsworth at 2,328 feet and the sample showed the formation to be dipping at approximately 30 degrees.

**Torrance**

There were no new wells finished at Torrance during the past seven days and this was reflected in the field's production, which showed a decline. There were two clean-out jobs recorded, however, the Standard Oil Co. succeeding in returning Nos. 1 and 4 an the Interstate property, to production. The former pumped 165 bbls. upon recompletion, while the latter made 60 bbls. No. 1 was cleaned out to bottom, 3,882 feet, while No. 4 was cleaned out to 3,500 feet, the bottom of the hole being 3,879 feet. Considerable interest attaches to the report that the Standard expects to pick up another structure adjacent to the Torrance Field and will drill No. 2 Elliwood to test this theory. This is a large lease and warrants a test on the west side. The Van Allen Oil Co. is rigging up rotary tools for a new hole, No. 7, and will probably get under way within the next week or ten days. The Selby Root Oil Co., although it had practically decided to temporarily suspend drilling, started work on No. 11 Torrance, which, judging by the other 10 wells on the property, should result in at least a 150-bbl. well.

The Chanslor-Canfield Midway Oil Co has erected rigs for two more holes on its Del Amo lease and staked one additional location. The new rigs are Nos. 46 and 48 and the location No. 54. The company has three drillers on this lease at present, No. 32 at 3,540 feet; No. 36 at 2,650 feet, and No. 42 at 2,556 feet. The General Petroleum put No. 20 Poggi on a production test during the early part of the week but the only output obtained was mud and water. The company has been experiencing considerable trouble with this hole since its completion several months ago. The lease looks good for production, however, and No. 3 is going steadily ahead at 3,745 feet, No. 5 at 3,565 feet, No. 6 at 2,000 feet and No. 7 at 2,198 feet. No. 8 is standing rigged up. The Shell is dismantling the rig on No. 2 Kettler, a deep test, which was dry at 5,373 feet. The hole has been plugged and abandonment notice filed with the State Mining Bureau. The only work which the Shell is doing in this field at present is that necessary to maintain production. Several clean-out jobs and workovers are all that appear on the company's progress chart.

**Long Beach**

One new well was finished at Long Beach, but since it sanded up shortly after completion, some additional work will be necessary before it goes on steady production. The Hall Weber Syndicate completed No. 1-A at 4,108 feet, a 4½-inch oil string, carrying 400 feet of perforated, being used to finish the hole. It started off flowing 250 bbls. but sanded up shortly after and judging from indications, it will probably be necessary to put the well on the beam. E. L. Blanton is making preparations to put No. 1 Trust on the pump and should be ready to make a test within the next week or ten days. The Hub Oil Co. has just concluded a fishing job of several months' duration in No. 2 Beck, drilled to 4,962 feet. The well is at present standing comented. The Pan American is abandoning two deep holes, No. 1 Stone, drilled to 5,495 feet, and No. 1 Wallow, carried to 4,560 feet. Water trouble and small unsatisfactory production were contributing factors.

**Huntington Beach**

One new well was finished at Huntington Beach and another recompleted after being redrilled and deepened. The field's new producer was No. 3 Riggle of the Southern California Drilling Co., put on production at 3,096 feet after being finished with a 6¼-inch oil string carrying 407 feet of perforated. It came in flowing 164 bbls. of 20.1 gravity oil, which cuts 12 per cent. The large percentage of water present in this production looks like bottom water. The Pacific Petroleum more than doubled its output when No. 10 Miley was recompleted after being redrilled and deepened to 3,678 feet. A 4¾-inch oil string carrying 210 feet of perforated was used in finishing the hole. The initial output was 780 bbls. of 26.8 gravity oil which cut 12 per cent, but the following day the tank gauge showed 508 bbls. of 27.9 gravity oil which showed a cut of 1 per cent. The Standard's No. 18 Bolsa Chica, an important outpost, tested wet at 4,694 feet and another cement job will be necessary. The Standard drilled this hole searching for production to the west of the field but so far has not found the coveted sand. The Union is erecting two new rigs, Nos. 10 and 11, on its Bell lease at Santa Fe Springs and as soon as rigged up, crews will be put to work.

**Montebello**

No. 2 Howard-Smith of the Standard at Montebello is not showing any disposition to clean up, and, although the output, 354 bbls., is satisfactory, about 50 per cent of the fluid is water. It is not believed that the company will be successful in securing clean oil on this property. On the Baldwin lease, the Standard is allowing No. 60 Baldwin to stand idle at 4,703 feet and No. 62 at 4,525 feet. The McGinley Oil Co. is cleaning out No. 3 at 2,125 feet and is going ahead with two new wells, No. 19 at 3,098 feet and No. 20 at 2,006 feet. There were no new developments in the Rideout Heights section of the old Whittier Field none of the companies making any new holes. No. 1-A Gregg of the Associated is standing suspended at 3,739 feet, while the Pan American is reaming No. 1 Jesurum. The Petroleum Midway is working on both No. 1 Hamburg and No. 1 Seward, but no material progress was made in either. The Standard is going ahead in No. 21 Home in the older section of the Whittier Field at 4,545 feet but so far has failed to pick up any showings of importance below the upper producing horizon. The Central is having difficulty with well No. 74 and reports practically no change in depth.

**Richfield**

The Union is listing No. 6 Morse at Richfield as a 115-bbl. completion, the oil testing 25.4 degrees and showing a cut of 2 per cent. The well was drilled to 4,619 feet and caused the company considerable trouble before a satisfactory production was secured. The Union is working with two wells on the Chapman lease, No. 15, a clean out job at 4,500 feet, and No. 24, a new well at 4,650 feet. No. 1 Tuffree, the company's extension well, is being bailed for a test at 4,595 feet. No. 11 Yorba Linda Group is showing plenty of kick at 4,404 feet and judging by indications, the Union should bring in a good producer within the next two weeks. The Chicksan Oil Co. cemented No. 2 Bradford at 3,881 feet and is building a rig for No. 3. The Standard, on Kraemer Lease No. 2, reports No. 18 as cemented at 3,176 feet and No. 19 drilling ahead at 1,904 feet. The Tonner Oil Co. is repairing the boilers on the Swan lease and as a result did not make any hole in No. 1 which is down 1,146 feet. The General Petroleum ran into a fishing job in No. 6 Thompson while drilling ahead at 3,184 feet.

**Fullerton**

The Union has No. 1 Olinda at Fullerton all rigged up ready for work and while it was expected that the company would start operations on this newly acquired tract, the hole was not spudded in. It is believed, however, that the coming week will see a crew at work. The Brea Canyon Oil Co. is drilling ahead in an exceedingly hard sand at 1,278 feet but should make good footage after passing through this formation in another 100 feet or so. The Chanslor-Canfield Midway Oil Co. has finished rigging up No. 96 Olinda and is grading for No. 97 on the same lease. The Shell is rigging up No. 32 Stearns and is building a rig for No. 3 Fisher. No. 3-A Pico is drilling ahead in a hard sand at 900 feet. The South Basin Oil Co. finished its No. 4 at Newport and secured a 20-bbl. pumper the oil being of the usual heavy grade. The completion depth was 1,214 feet. No. 5 is at present standing cemented at 940 feet but should be on production within the next two weeks. The Bruce Oil Co. spudded in No. 2 Newport and shows approximately 200 feet of hole. The Interstate Oil Co. has spudded in No. 2 Mesa, which will be finished as a shallow producer. The Shell killed No. 1 Bixby at Seal Beach, which has been flowing salt water for some time, and will start abandoning it. No. 2 Bryant, drilled to 4,398 feet, is being cleaned out at 3,780 feet, while No. 3 on the same lease is drilling ahead at 4,067 feet.

**Ventura**

The Shell, Associated and General Petroleum Cos. are all preparing to take advantage of the deep drilling proved possible in the Ventura Avenue Field by the Associated Oil Co. The latter recently completed two excellent wells in this pool and while the company did not open up a new producing horizon, the wells

(Continued on Page 106)

# East Central Texas

**By Staff Correspondent**

MEXIA, Tex., March 14.—With the Atlantic Oil Producing Co., Penn and others' test on the Abshur farm and that of the Humphreys Boyd Oil Co. on the Walthal farm definitely known to be failures, the Gulf Production Co. comes forward with the announcement that it will drill a test on the M. Green farm, a lease which it secured on a drilling contract from the Kirby Petroleum Co. The test will be located either in the southwest corner of the farm or in the northwest corner of the south half of the farm, which is a little southwest of the Walthal and Abshur tests. Another important test to be started will be that of Edson and others on the Warren 22 acres about 2 miles northeast of the town of Powell and 3 miles southwest of the Abshur and Walthal tests.

The Humphreys Boyd Oil Co. drilled deeper this week in its Walthal test more for the purpose of getting a record of the lower levels than in the hope of finding oil, and late yesterday the hole was at a total depth of 3,129 feet with no showing whatever of oil or gas. The company has a gas well 8 feet in the sand at a total depth of 3,009½ feet on the Connor farm, Newman survey, northeast of its Walthal test and it may drill this well deeper. This well after having been shut in for a time will, when reopened, produced about 25 bbls. of gasoline at the rate of about 6 bbls. a day.

It is reported that the Humble Oil & Refining Co. has made a core test in the southeastern part of Kaufman County which located an oil bearing sand, but this report has not been confirmed.

The next play outside of Navarro County will be made in Henderson County. Robert Penn has acreage in that county that looks so good to him that he wants to drill it. Other operators are trying to induce him to hold off until the crude market is on a firmer basis than it is now.

The old Prairieville district in Kaufman County is again attracting the notice of lease owners there and hopes of finding production have been revived sufficiently to indicate that it will again be tested with the drill.

**The Wortham Field**

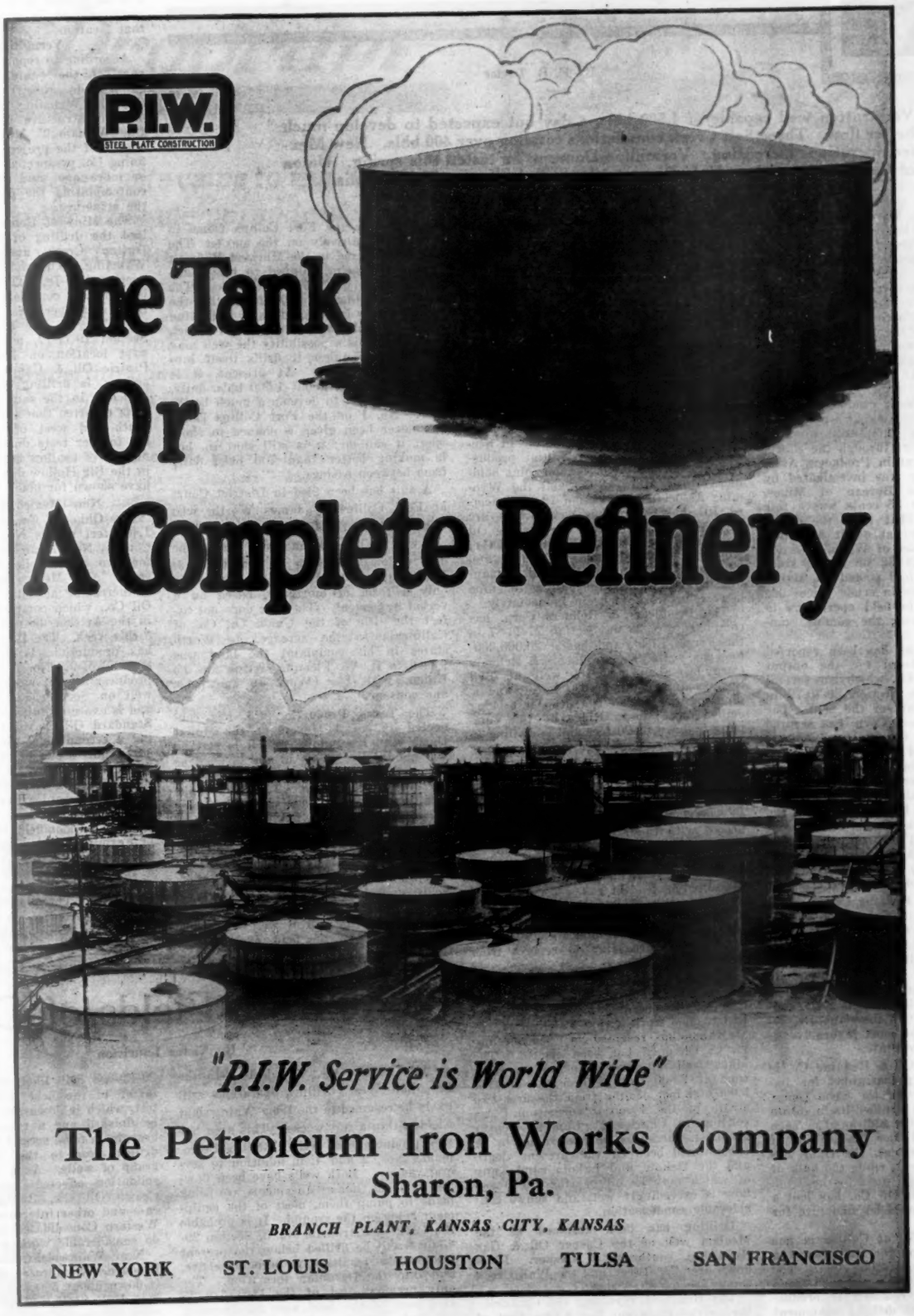
The Wortham Field has settled down to a point where big initial production may no longer be expected from wells. The gas pressure is much reduced and the close spacing of wells has caused a drainage that very materially affects the new production of recently completed wells.

The most recent 14 oil wells finished in the field had a total initial production of 2,085 bbls. or an average of 149 bbls. per well. In the early days of the field wells of 5,000 bbls. initial production were reported in sufficient number to make one of them occasion no great amount of comment.

The following wells were finished on the Freestone County side of the Wortham Field recently:

Pure Oil Co.'s No. 4 Bounds, 80 bbls. a day at a total depth of 2,995 feet, with the tools in the hole.

(Continued on Page 104)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# Rocky Mountain Area

By F. B. Taylor

**Verstratten well capable of 1,500 bbls. a day but expected to develop much better flow. Three Salt Creek completions totaling over 400 bbls. New Mexico operations increasing. Vermillion Dome to be tested this spring. Union of California abandons Hale Dome well. Still drilling at Thermopolis.**

CASPER, Wyo., March 14.—The Midwest Refining Co. has announced that it is preparing contracts for Salt Creek oil under which any producer who will turn his entire output over to the Midwest will be paid a price corresponding to that paid for Mid-Continent crude of the same grade. While this action on the part of the Midwest means the elimination of the differential, the posted price of Salt Creek crude will remain for the present $1.90 a barrel. At this time, the Mid-Continent price on grades corresponding to that of Salt Creek crude is $2, the differential amounting to 40 cents. Several years ago, the differential stood as high as 60 cents, but through the efforts of the Rocky Mountain Producers Association, the matter was investigated by the United States Bureau of Mines, which decided that 35 cents was a fair difference. Since that time, the differential has remained at about 40 cents. Practically all grades of Wyoming crude are now quoted at $2 or above, since the increase in prices posted on March 10. These increases in crude prices are certain to stimulate field operations in the Northwest during the coming summer.

The Texas Co. as has been reported recently has contracted for the output of the Bonfils Oil Co. which has several producing wells on Section 30-40-78 in the northeastern part of the field. The Producers & Refiners Corp. has secured the production of the Staley Syndicate on the west half of Section 6-39-78, and that of the Dominino Bessemer interests in the southern part of the field. The Consolidated Royalty Oil Co., whose leases are operated by the Carter Oil Co. has contracted to the Carter its share of the production. These contracts were all closed at Mid-Continent prices and others are pending. Some of the contracts cover a period of five years.

The Utah Oil & Refining Co. is scheduled to spud in on its Gebo Dome test in Hot Springs County. Preliminary work at the location of this first well has been pushed with all possible speed, as if to make up for the five or six years' delay in settling the matter of titles. The Utah Oil & Refining Co. controls the larger part of the structure, regarded as one of the most favorably appearing domes in the State.

While the Utah Oil & Refining Co. is going ahead with preparations for immediate development of the Gebo Dome, the Ohio Oil Co. has signified its intention to keep up its fight for additional acreage on the structure. Under the decision of the Interior Department, the Ohio was granted only 160 acres, while the bulk of the disputed territory went to the Utah company. The Ohio Oil Co. has had a rig and camp on the Gebo structure for several years.

The Union Oil Co. of California has abandoned its well on the Hale Dome in northern Wyoming at 2,058 feet. The well was carried to the Amsden sand without uncovering commercial production. The camp and drilling equipment are being moved off the structure, which would indicate no further tests will be made. The same company is drilling below 1,000 feet on the Lake Creek Dome near Thermopolis, and at present the well is in the Thermopolis shale beds, where progress is slow.

In the same part of the State, the Producers & Refiners Corp. is making headway with a test on the Murphy Dome. The Producers & Refiners scouts have been investigating the Buffalo Basin and other structures in the northern part of the State during the past few weeks.

### Salt Creek Completions

The Midwest Refining Co. completed three wells in the Salt Creek Field last week, with a total new production of over 400 bbls. No. 16-A on Wyoming Associated holdings in Section 30-40-78 tested 96 bbls. after a shot; No. 22-A on acreage of the same company in Section 24-40-79 showed an initial production of 235 bbls.; No. 4-A on joint holdings of the Midwest Oil and the Wyoming Associated in Section 12-40-79 tested 101 bbls. No other completions are reported. It is reported the Marine Oil Co., which operates the Glenrock Oil Co., Royalty & Producers, Wyokans and Wolverine properties in the field, is planning a drilling program calling for nine new wells, work to begin immediately.

The Producers & Refiners Corp. has completed No. 23 on Section 27-26-87 in the Ferris Field, and has a 20,000,000-foot gas well. The Producers & Refiners Corp. has abandoned its well at Bell Springs at a depth of 3,108 feet, and is plugging the hole. The deep test being drilled on Simpson Ridge by this company is down 6,570 feet and is drilling in a gray, sandy shale. The other two tests begun by the Producers & Refiners Corp. on this structure are shut down.

The Hughes Royalty Co. gas well on the north end of the Mahoney Dome tested 8,000,000 feet. The well will be connected with the Lost Soldier-Casper gas line of the Producers & Refiners Corp. As this well is located so far down on the structure, it was hoped oil might be encountered instead of gas, especially after a considerable showing was found some distance above the gas sand. Another well will be drilled immediately by the Hughes Co., according to reports from Rawlins.

The Mack Oil Co., which is drilling a well on the Sheldon Dome in Fremont County, has been newly financed, and will resume work within 10 days. L. F. McMahon has resigned as president and H. C. Chappell has been elected. The Mack well has been standing for some time at 2,800 feet, with a gas flow of 5,000,000 feet coming from the first two strata of the Frontier formation. According to Charles T. Lupton, Denver geologist, there are several sands to be encountered between the present depth and the Dakota and Lakota sands, any of which may be oil bearing. The gas flow is exceedingly wet, and shows considerable condensation.

Drilling has been resumed at the Meabon well of the Casper Oil & Gas Syndicate, southeast of Casper. It is down over 2,000 feet, and the Wall Creek sands are expected shortly.

The Bradford Wyoming Oil Co., drilling on the Emigrant Gap Dome west of Casper, struck a heavy water flow in the lower part of the Tensleep sand. The water will be cased off and the well carried to the Amsden sand.

### Verstratten Well

The production from the new Verstratten well of the Union Oil Co. of California on the Fort Collins Dome in Colorado is already on the market. The oil is contracted to the Midwest Refining Co., and is being shipped to the Continental refinery at Florence, Colo. The well is standing at 4,502 feet, with the bit 18 inches in the sand and is flowing about 60 bbls. an hour from a 1-inch hole. There is a possibility the well may be deepened, unless it drills itself into greater production. At present, it is capable of doing about 1,500 bbls. daily, but is expected to develop a much better flow. No. 1 on the Fort Collins Dome has never been given a chance to show what it can do; it is still shut in, but is making better than 700 bbls. daily from between casings.

A suit has been filed in District Court at Fort Collins by James Worth, who originally held the 40-acre tract on which the well is located, and who claims the quit claim deed given by him to J. J. Verstratten was at the time considered only a form of mortgage, based on a verbal agreement. The suit does not affect the title of the Union Oil Co. of California to the acreage, as Worth states in his complaint the land was leased to R. W. Fleming, acting for the Union, with his (Worth's) knowledge and consent.

The Texas Production Co. has connected its No. 1 Meyers on the Moffat Dome with the pumps, and it is making 250 bbls. daily. This is not so good as the discovery well, which has been putting about 800 bbls. of oil into the tanks daily. So far no new wells have been started by the Texas, but development of the field is assured by the successful completion of the Meyer well.

The Homestake Oil Co., which has been exceptionally successful in the Montana fields, drilled in a water well last week in the Elk Basin Field, on the Wyoming side of the line. The well is in the southern part of the field, over 2 miles from the heart of the structure. A small gas flow was encountered in the first sand, which was 95 feet thick. The second sand, picked up at 2,044 feet, showed oil in the first foot of drilling; at 4 feet in the sand, the water began to come in. It is a question whether the well will be carried to the third sand, which is thought to lie at about 3,000 feet at that location.

### Vermillion Dome

According to reports from the southern part of the State, material is being shipped to the Vermillion Dome in Southern Wyoming, preparatory to a test of that structure in the early spring. One William T. Morris is given as the backer of the project. The Midwest Refining Co. prospected in that area a year or more ago, and was reported to be contemplating the drilling of a test on the structure.

The Midwest Refining Co. has authorized the drilling of a test well on the Dutton Creek anticline in southern Wyoming. The well will be located on Section 1-18-78. This part of the State is receiving considerable attention from the larger operators. The Ohio Oil Co. is drilling a test at Cooper Cove, on Section 19-17-77, northeast of the Midwest location on Dutton Creek. The Prairie Oil & Gas Co. through a subsidiary, is drilling on the Foote Creek anticline in the same part of the State. It is reported that the Big Hollow Dome south and west of Laramie will also see further tests during the summer. A number of shallow holes have been drilled in the Big Hollow district, some of which have shown for black oil production.

### New Mexico Development

The Ohio Oil Co., which is drilling at 1,400 feet on its No. 1 Tracy in Eddy County, New Mexico, has made locations for two more wells, both south of Artesia. New Mexico is showing a rapidly increasing activity. The Twin States Oil Co., which completed two good wells in the Artesia district, will spud in No. 3 this week. The Illinois Co., which also has production, is drilling No. 6, No. 8 and No. 9. No. 7 was completed as a producer several weeks ago. The Picher well on Section 12-18-27 will be shot, and is expected to make a producer. The Standard Oil Co. of California is starting a second hole, the first having been saved for a water well at a shallow depth. The Danciger interests are drilling on Section 19-18-28, while a number of local companies have wells at various depths.

On the Bloomfield Mesa, 12 miles east of Farmington, the Bloomfield Oil & Gas Co. put its No. 1 on the pump, and has a 10-bbl. well. No. 2 is standing ready for a shot, and No. 3 is pumping 20 bbls daily. This well will be cleaned out and is expected to do much better. No. 4 and No. 5 are drilling and No. 6 is

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# News from Fields of Canada

By Victor Lauriston

CHATHAM, Ont., March 14.—In the Canadian West, drilling operations will likely be resumed in the Irma-Wainwright Field within a few weeks. This area has two producing oil wells, British Petroleum's Nos. 2 and 4, in addition to several gassers. Both wells have been flowing by heads, but arrangements are being made to pump them, most of the equipment being on the ground. It is probable that British Petroleum No. 3, Section 29-45-6w4 will be drilled below the present sand, where results have been indecisive, and into the Devonian formation. The only previous test of the Devonian in this part of the field was the Imperial Oil, Ltd., mystery well at Fabyan, which failed to develop any oil production. British Petroleum No. 5 is rigged up, but may not start drilling till No. 3 has been deepened.

Outside the British Petroleum wells, the Western Consolidated Oils, Ltd., which has an unfinished test on Section 20-45-6w4, will likely be the most active factor in the field this season. No. 1 test, which is down about 1,200 feet, will be finished and a rotary outfit is being brought in for a second test, which will be drilled close to the British Petroleum group of wells. As a result of the consolidation effected last year with the Crown Oil Co., Bishop Norton Syndicate and other interests in the field, the Western Consolidated is in a position to do considerable work this year.

Near Wainwright, the Wainwright Oil Producers Syndicate, Section 36-44-7w4 is down about 500 feet. Irma Oil Holdings, Ltd., Section 28-45-9w4, is drilling a town lot test at Irma, with a light outfit and has made about 400 feet.

The Maple Leaf Oil & Gas Co., whose No. 1 well on Section 24-45-8w4 last year developed a large gasser with traces of oil has a rig up for a second test. It is not known, however, whether any work will be done this season, as operations have

(Continued on Page 100)

# Company adopted Steel Program

*—and when these Facts came to the office of the President, this memorandum was immediately written and sent—*

*To The General Manager*
*General Superintendent*
*All Field Superintendents*
*Purchasing Department:*

"Present day competition in the oil business requires that we equip our properties with permanent, durable production machinery. Wooden equipment has been proven the most extravagant item in the producing end of the oil business. Our auditor has shown me where the yearly cost of the wooden derrick, per well, is six times greater than by using an International Galvanized Steel Derrick.

"I am disgusted with wooden derricks and have concluded that from now on, we will adopt an International 'IDECO' reinforced Steel program. The first cost will be slightly greater than that of a wooden derrick, but the yearly derrick cost per well will save our company thousands of dollars.

"Our plan will be to replace all wooden production derricks with 'IDECO' Galvanized pumping derricks. On future locations, this type of 'IDECO' Derrick, with removable reinforcings will be used for drilling and the inner unit left for production purposes after the well is in.

"I have received satisfactory reports from the foremen and field men who have had experience with these derricks. This company, beginning with this date, will standardize on International Steel Derricks and all purchases of same are hereby authorized."

*Every day, Companies in all the Fields are being convinced, by Facts, that an International "IDECO" Steel Program is the most Economical course to follow. Write for full information.*

## The International Derrick & Equipment Co.

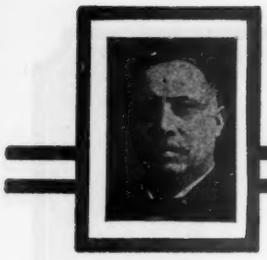
**Columbus, Ohio** **Los Angeles, Cal.**

*The Largest Company Devoted Exclusively to the Manufacture of Steel (Galvanized) Equipment for the Oil, Gas and Artesian Industries*

Steel Derricks - Steel Bull, Calf & Band Wheels - Walking Beams - Crown Blocks - Complete Steel Rigs

GALVANIZED

# Steel Derricks



# Pennsylvania-West Virginia

By D. S. Wakenight

**E. H. Everett Co. well in Hanover Township, Licking County, Ohio, swabbing 100 bbls., best producer in section. A. H. Heisey Co. swabbing 70 bbls. from Hopewell Township well; Planet Oil Co., 42 bbls. East Ohio Gas Co. has 35-bbl. well in Holmes County; Sunday Creek Coal, 50 bbls. in Hocking County.**

PITTSBURGH, Pa., March 16.—The omission of a few good producers would leave the week of development work in the Eastern fields featureless. The refined market remained stationary, except for a slight reduction, less than 1 cent a gallon, in the northwest from the generally quoted price of gasoline. Refiners in Pittsburgh and vicinity are carrying a large stock of gasoline and will be in condition to meet the demand when weather conditions are once more favorable and the automobile put back into commission. For some weeks northern refiners have been getting their crude from the southwest and West Virginia. Nearly all of the new work starting is in the defined districts and only a little outside. Once the market passes the $4 mark there will be an effort made to find some strictly new producing territory.

### Field Developments

In Lot 8, Hanover Township, Licking County, Ohio, the Edward H. Everett Co. completed and shot in the Clinton sand No. 3 on the Felix Montgomery farm. The casing collapsed but they swabbed 100 bbls. the first 24 hours. When drilled in it showed for one of the best producers in that section. In Section 1, Hopewell Township, the A. H. Heisey Co. completed and shot in the same formation No. 3 on the B. V. and Lulu B. Weakley farm. They swabbed 70 bbls. the first 24 hours. In the same section and township, the Planet Oil Co. completed and shot No. 4 on the W. H. Weakley farm. After standing two days they swabbed 42 bbls.

In Section 36, Olive Township, Noble County, J. H. Haines and others have a 3-bbl. pumper in the Berea grit at a test on the E. O. Davis farm. In Enoch Township, Way Wickens and others have a duster in the 700-foot sand at a test on the J. M. Rowland farm. Williams & Clark have a 2-bbl. pumper in the same formation at a test on the J. W. Williams farm. In Newport Township, Washington County, the First National Bank of Marietta is drilling No. 3 Louisa Mendenhall from the Mitchell to the Keener sand. In Section 21, York Township, Morgan County, the Sun Oil Co. completed No. 3 on the Amos Souders farm and showing for a 15-bbl. pumper in the Berea grit. It is 600 feet northeast of No. 2 on the same farm. Two miles northeast of this Berea grit development in Section 19, York Township, Morgan County, the Davis Oil Co. drilled a test on the L. D. Stoneburner farm into the Berea grit. It is a gasser good for 800,000 feet.

In Louden Township, Carroll County, Charles Scott and others completed and shot in the Berea grit a test on the Robert Aubaugh farm good for 10 bbls. a day. The location is 500 feet southwest of the test on the William F. Brandt farm. The recent completion of some fair producers in this section has inspired the starting of some new work. The Miller Leese Oil & Gas Co. is drilling on the Brandt farm and the Natural Gas Co. of West Virginia is drilling on the L. Blackledge farm.

In Section 22, Knox Township, Columbiana County, the Coraopolis Trust Co.'s No. 14 on the A. L. Stoffer farm is a 2-bbl. pumper in the Berea grit. In Section 15, the Kirk-Dunn Oil Co. is due in the Berea grit at No. 14 on the Yaggi heirs' farm. In Newport Township, Washington County, J. F. McIntyre & Co. have a 3-bbl. pumper in the Cow Run sand at No. 20 on the Daniel Thebold farm. In Section 49, Salem Township, L. Bay & Co.'s test on the Jacob Wagner farm is a 3-bbl. pumper.

The East Ohio Gas Co.'s No. 3 on the James Uhl farm, in Lot 23, Hardy Township, Holmes County, is good for 35 bbls. a day in the Clinton sand. In Jackson Township, Noble County, Beeson & Athey completed in the Macksburg 500-foot sand No. 5 on the Hupp-Murray farm and is a 10-bbl. pumper.

In Lot 15, Hanover Township, Licking County, the Carter Oil Co. started to drill down to the Clinton sand its No. 3 on the James Settles farm. In the southwest quarter of Section 11, Jackson Township, Perry County, the Southern Oil Co. started to drill a second test on the Thomas H. Welch farm 500 feet east of the Trinway Oil & Gas Co.'s test on the Frank Metzger farm.

In Section 16, Ward Township, Hocking County, the Sunday Creek Coal Co. completed and shot in the Clinton sand its No. 122 on the Sunday Creek Coal Co.'s property. The well flowed 50 bbls. the first 24 hours. The location is 600 feet west of No. 115 on the same property. In the same county, Section 24, the Kachelmacher estate completed and shot in the Clinton sand No. 15 on the James J. Tracey estate. The well has not produced on account of the casing collapsing. They are now fishing out the casing.

In Section 3, Hopwell Township, Perry County, the Empire Oil & Gas Co. completed in the Berea grit a test on the Sophia Orr farm. It is a duster, one-fourth mile north of the Atha Oil Co.'s test on the George Trout farm. In Liberty Township, Washington County, Heldman and others have a 4-bbl. pumper in the Maxon sand at a test on the T. E. Williams farm. In Section 17, Union Township, Muskingum County, local parties are fishing at 1,675 feet at a second test on the J. E. Evans farm. The same parties shut down at 1,306 feet at a test on the O. C. Evans farm. In Section 4, Adams Township, Guernsey County, the Ohio Fuel Gas Co. is drilling at 3,266 feet at a test on the Mary E. Clark farm, has started to drill a test on the C. C. Clark farm and rigs up for tests on the John C. Wilson and James R. McBurney farms. In Section 14, Bowling Green Township, Licking County, Whitehill & Zohniser are moving rig timbers to the location for No. 4 on the George M. Bowers farm.

### West Virginia

In Sheridan district, Calhoun County, the Richter Oil Co. has drilled No. 5 on the B. S. Raybuck farm through the salt sand. It is a fair gasser. In Union district, Tyler County, A. McCullough has a gasser in the Big Injun sand at his test on the Ada V. Parker farm. On Big Buffalo Creek, same district, the South Penn Oil Co. has the rig completed for a second test on the Olive Hess farm. On Anna Maria Creek, Sheridan district, Calhoun County, M. F. Crowley started to drill a deep test on his own 55 acres. The location is 2,500 feet west of the Hope Construction & Refining Co.'s test on the Bert Haverty farm. On Little Grave Creek, Union district, Marshall County, Wasmuth & Callahan have the rig completed for another test on the Mary A. Riley heirs' farm. In West Union district, Doddridge County, the Clifton Oil & Gas Co. gave its No. 2 on the S. E. Smith farm a 20-quart shot in the Big Injun sand, increasing its production from 2 to 30 bbls. a day.

In Freemans Creek district, Lewis County, West Virginia, the Hope Natural Gas Co. drilled a test on the Martha Kemper farm into the Gordon sand. It is a gasser good for 5,500,000 feet. On Holly run, Grant district, Ritchie County, Martin Burk & Sons completed and shot in the salt sand No. 102 on the H. Mount tract. It is not good for more than 2 bbls. a day. In Union district, Clifton Louden & Co. have drilled a test on the A. W. Zichafoose farm through the Berea grit. It is a gasser.

### Gilmer County Completions

In DeKalb district, Gilmer County, the Hope Natural Gas Co.'s No. 3 on the W. G. Bennett farm is a gasser in the Big Injun sand. In the same district, McIntosh & Miller's second test on the J. R. Godfrey farm is a gasser in the Maxon sand. The Ohio Fuel Oil Co.'s Nos. 3 and 4 on the Albert Corberly farm are gassers in the Maxon sand. In Central district, Doddridge County, Taylor & Whitney's test on the Thomas Doak farm is dry in the Big Injun sand. The Murphy Oil Co.'s second test on the C. D. Perrine farm is a gasser in the Big Injun sand.

In Union district, Wood County, the New York Petroleum Co. has a 2-bbl. pumper in the Cow Run sand at No. 10 on the Benjamin Putman farm. In Clay district, the Ridge Oil Co.'s No. 4 on the H. D. Price farm is a light pumper in the same formation. In Liberty district, Marshall County, the Manufacturers Light & Heat Co. has a gasser showing some oil at a test on the J. P. Reid farm. The same company's test on the John E. Wilson farm is a gasser in the Gordon sand.

### Gasser in Wetzel County

In Church district, Wetzel County, J. B. Orndoff has drilled his test on the Emma Kirkhart farm through the Gordon sand. It is a fair gasser. In the same district, the Pittsburgh & West Virginia Gas Co. has a duster in all lands at a test on the Charles Horner farm. It has been abandoned. In Washington district, Jackson County, the Joshua Skeen farm is dry in the Big Injun sand. They are testing for oil in the salt sand. In Walton district, Roane County, L. C. Young & Co. are testing for oil in the same formation on the Samuel Shafer farm. In Collins Settlement district, Lewis County, the White Oak Oil & Gas Co. has made a location on the H. C. Samsey farm.

On Summers Fork, Henry district, Clay County, the Virginia Gasoline & Oil Co. completed a test on the James Phillips farm. It is a gasser in the Big Injun sand 2,200 feet west of the same company's test on the D. M. Summers farm, and good for 2,500,000 feet.

In Smithfield district, Roane County, the United Fuel Gas Co. has a gasser in the Big Injun sand at a test on the W. L. Harshbarger farm. In Walton district, the same company's test on the F. E. Marks farm is a gasser in the same formation. In the same district, L. C. Young & Co. have a 10-bbl. pumper in the salt sand at a test on the Samuel Shafer farm.

### Dry in Squaw Sand

In Clay district, Ritchie County, the Carter Oil Co. has now drilled its test on the A. J. Hayburst farm through the Squaw sand and dry and abandoned. In Union district, Hood & McQuain have a gasser in the Big Injun sand at a second test on the A. W. Zichafoose farm. In Murphy district the Hope Natural Gas Co. is through the Big Injun sand on the Emma Goff farm and has a gasser.

In Collins Settlement district, Lewis County, the Hope Natural Gas Co. drilled a test on the Mary E. Edmiston farm through the fifth sand. It is dry and abandoned. In the same district, the Mud Lick Oil & Gas Co.'s second test on the S. T. Perrine farm is dry and abandoned in the Big Injun sand. In Southwest district, Doddridge County, the Carter Oil Co. has a gasser in the Maxon sand at a test on the W. H. Hufford farm.

In Simpson district, Harrison County, the Aizpurin Gas Co. is fishing at 2,300 feet on the Nathan Richards farm. In the same district, the Four-Eight Oil Co. is fishing for a string of tools at 2,300 feet on the John D. Warner farm. In Reedy district, Roane County, the Heck Oil Co. is due in the Big Injun sand at a test on the D. H. Borroughs farm.

### Drilling and Starting Tests

In Smithfield district, Roane County, the United Fuel Gas Co. started to drill on the T. S. and W. S. Simmons farms. The same company made a location on the W. L. Harshbarger farm. While drilling at 2,085 feet, the Carnegie Natural Gas Co.'s test on the A. G. Mace farm in Center district, Wetzel County, caught fire and the rig was consumed. In Liberty district, Marshall County, the Decem Development Co. is moving a drilling machine to a location on the Phillips Markey farm. In the same district, the same company is due in the Gordon sand at a test on W. A. Evans farm. In DeKalb district, Gilmer County, the Philadelphia Oil Co. started to drill on the J. S. Stalnaker farm.

### Harrison and Lewis Counties

In Collins Settlement district, Lewis County, the Mud Lick Oil Co. is drilling on the Dennison heirs' farm. In Courthoust district, T. M. Caine & Co. started to drill on the Mary E. Daugherty farm. The Grasselli Chemical Co. is drilling No. 5 on the M. R. Lodge farm in Simpson district, Harrison County. In the same district, the Aizpurin Gas Co. is due in the Gordon sand on the Nathan Richards farm. Martin Crowley started to drill on the Don & Martha Crowley farm, in Sheridan distict, Calhoun County. In Murphy district, Ritchie County, the Parka Oil & Gas Co. started to drill on the Amos Scott farm. In Grant district, the Penn Royal Oil Co. is rigging up on the Lowther Brothers farm. In McClelland district, Doddridge County, local parties have the rig completed on the George Knight farm. In Carroll district, Lincoln County, the Moore Rock Oil & Gas Co. is fishing at 1,000 feet on the James Madden farm. In the same district, G. T. Ray & Son spudded in on the Cana Stewart farm. The United Fuel Gas Co. started to drill on the James E. Johnson farm, in Curry district, Putnam County. In Ten-Mile district, Harrison County, R. T. Lowndes is due in the Gordon sand at a test on the J. H. Benedum farm. In Greenbrier district, Doddridge County, George Travis is rigging up on the Edith Ferris farm. In New Milton district, Maxwell & Co. have rig material at a location on the F. P. Burgridge farm.

### Making Progress at Deep Test

In Union district, Harrison County, the Reserve Gas Co. is drilling at 1,900 feet at its deep test on the Nathan Smith farm. In Carroll district, Lincoln County, the Cambridge Gas Co. is due in the sand on the L. T. Nida farm. L. R. Sweetland started to drill No. 3 on his own farm. In Coal district, Harrison County, the Elk Hill Fuel Co. started to drill on the M. R. Lodge farm.

In Collins Settlement district, Ray

(Continued on Page 78)

# vs a STONECUTTER

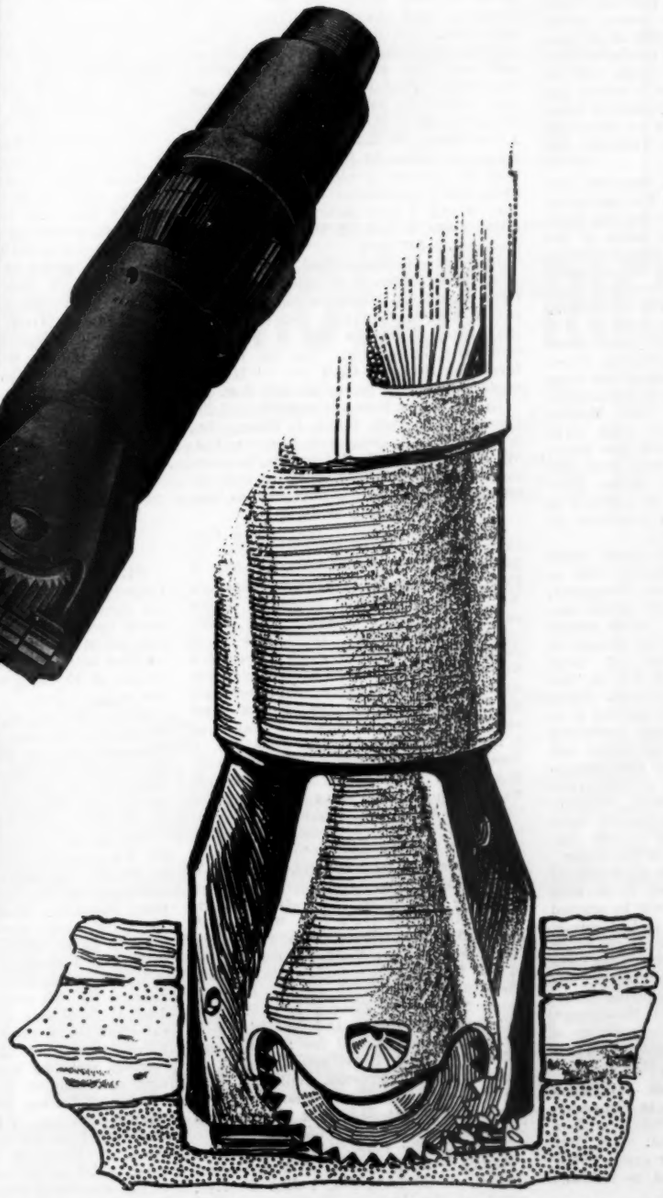
An ordinary dog can make a hole of some kind and will occasionally kick out some stone or gravel

BUT

when it's necessary to cut hard rock and leave a clean, straight hole

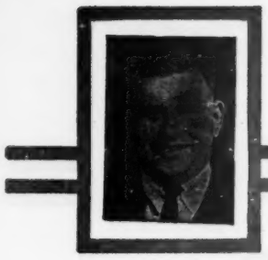
THEN

a REED ROLLER BIT can be depended upon every time.



MPANY

LOS ANGELES



# Kentucky—Tennessee

By Vern T. Whitney

**Eastern Kentucky operators planning extensive campaign for new territory. Western Kentucky and Tennessee exploratory campaign. Wood Oil Co. gets best well of week, Barren County, 27 bbls. Garrison & Townsend have 25-bbl. producer in North Weir. Tests in Lee and Owsley Counties disappointing.**

BOWLING GREEN, Ky., March 16.—It is apparent that much testing will be done this year by the major companies as well as by independent producers in the eastern portion of the Blue Grass State as they are blocking up acreage in all sections of that territory, especially in Clay, Owsley, Jackson, Floyd, Elliott, Knox and Greenup counties. The producers find themselves in a position where most of their acreage in proven areas has been drilled up, and they must now be on the lookout for new producing territory. As a result test wells will be drilled in new sections and it would not be surprising if some new producing areas were discovered, as there is an enormous amount of virgin acreage awaiting the drill.

In this connection, it is reported that the American Rolling Mill Co. has given contract to John G. White for the drilling of 15 wells, west and south of the gas field near Summit in Floyd County.

Present indications point to considerable exploratory work in western Kentucky and in Tennessee. The Owensboro district will get some new tests, as will Muhlenburg, Grayson, Ohio and other nearby counties, between Warren County and the Ohio River. Some of the larger concerns are planning a resumption of work in Cumberland and Monroe Counties where some good wells have been drilling during the past two years, and it is probable considerable work will be undertaken in Metcalf, Green, Russell and Clinton Counties, in addition to the well-known producing counties of Barren, Warren and Allen.

The recent exceptionally good wells finished in the Tinsley's Bottom area in Clay and Jackson Counties, Tennessee, have awakened great interest in the possibilities of that district. Many scouts are now in the field taking up acreage in widely separated localities. A large amount of work is looked for in this northern section of the volunteer State, which may be the means of placing it in the list of the consistently producing States. Nearly all of the operators and geologists who have studied the location of Tennessee with regard to the trend of the eastern producing fields, are confident further drilling will discover some good oil-producing territory, in both central and western portions of the State.

If the present optimistic condition of the industry is maintained, it is very probable several new tests will be started in Alabama, Mississippi and Georgia, where already considerable work is in progress, though with little result to date. A number of reputable geologists maintain that major oil-producing structures exist in Alabama and Mississippi, and some well placed tests may go a long way toward proving their theory.

### Week's Work

Compared with last week this week shows five more completions in Kentucky, the same number of producers, with a decrease of 50 bbls. in initial yield, four more dry holes and one more gasser. They were distributed by counties as follows:

| County— | Comp. | Prod. Wells | Prod. | Dry | Gas |
|---|---|---|---|---|---|
| Barren | 7 | 7 | 97 | 0 | 0 |
| Lee-Owsley | 4 | 1 | 5 | 3 | 0 |
| Lawrence-Johnson | 3 | 3 | 35 | 0 | 0 |
| Johnson-Magoffin | 3 | 2 | 11 | 1 | 0 |
| Warren | 3 | 2 | 20 | 1 | 0 |
| Allen | 2 | 2 | 12 | 0 | 0 |
| Cumberland-Monroe | 2 | 0 | 0 | 2 | 0 |
| Floyd | 2 | 0 | 0 | 2 | 0 |
| Wayne | 1 | 1 | 2 | 0 | 0 |
| Martin | 1 | 0 | 0 | 0 | 1 |
| Owensboro district | 1 | 1 | 4 | 0 | 0 |
| Total | 29 | 19 | 186 | 9 | 1 |
| Last week | 24 | 19 | 236 | 5 | 0 |
| Difference | 5 | 0 | 50 | 4 | 1 |

### Western Division

Barren County, in the western division, made the best record for the week in Kentucky with seven completions, all of them producers increasing the daily production of the county 97 bbls. The best well was No. 4 Will Church, in the Hall-Baker Pool to the north of Glasgow, drilled by the Wood Oil Co., Inc. It started off at the rate of 27 bbls. from a total depth of 563 feet, 183 feet below the shale, where 12 feet of pay was shot with 40 quarts of nitro. In the same area, the Consolidated Gas & Oil Co.'s Nos. 4 and 5 Hall-Baker, the discovery farm, made 4 and 12 bbls. respectively at 550 and 547 feet.

In the Emery-Moore Pool, west of Glasgow, Fred Moore, of Bowling Green, Ohio, completed No. 7 on his own farm for 16 bbls. at 546 feet, 185 feet below the shale. Fourteen feet of pay was shot with 30 quarts. On the Ritchie farm, the Star Oil Co.'s No. 14 Ritchie made 8 bbls. on power at 555 feet.

In the Gorby Pool, an extension of the Emery-Moore Pool, Lewis J. Emery, Jr., & Sons' No. 4 Depp and Greer and J. W. Porter's No. 2 McLaughlin is making 15 bbls. each from a stray sand at about 185 feet where amber oil was had.

### Drilling Wells

Emery-Moore Pool: Star Oil & Gas Co.'s Nos. 15 and 16 Ritchie, drilling at 240 and 325 feet respectively; No. 3 Free, shut down; Gillespie and Wigging's No. 2 Mack Mansfield, spudding; Reese and others' No. 2 Dodder, shut down on top of the cap rock; Roedener's No. 1 Ochs, 1,000 feet from F. A. Brendall's No. 1 Ochs, being tested after being shot with 40 quarts; Stafford and Roedener's No. 2 Lewis, dry in the shallow sand and being continued down in search of a deeper pay; Carter Oil Co.'s No. 4 Jess Wininger, drilling at 440 feet; Moore and Baker's No. 2 Hans Gassaway, drilling at 430 feet; Henderson Oil Co.'s No. 6 Burris, rigging up; Kopel Oil Co.'s No. 7 Childress, drilling at 321 feet; Stafford and Roedener's No. 3 Price, cleaning out; Esslinger Oil Co.'s No. 4 Steffey, rig.

In the Hall-Baker Pool, the Consolidated Oil & Gas Co.'s Nos. 6, 7 and 8 Hall-Baker are drilling below the shale; No. 9 is spudding; No. 1 Turner, drilling at 300 feet; Wood Oil Co.'s No. 1 Duff, offsetting No. 4 W. M. Church is spudding; No. 5 Will Church is drilling at 342 feet; Harrington and Norris' No. 4 Evans, drilling at 150 feet; Henderson Oil Co.'s No. 1 Burr, spudding; T. J. Samson's No. 1 Preston, drilling at 400 feet; No. 2 Ben Myers showing for a small stripper at 512 feet; No. 1 Dean is without a showing at 550 feet.

In the Gorby Pool, T. L. Gorby's No. 1 Bybee is a rig; No. 1 S. Chamberlin, drilling at 89 feet; No. 1 Ben Everret, south of the Jackson Highway, at 342 feet; Citizens Oil Co.'s No. 1 Judge Bybee at Haywood at 263 feet; Porter and others' No. 3 McLaughlin, at 197 feet; L. J. Emery, Jr., & Son's No. 5 Depp & Greer at 170 feet.

R. A. McLean's No. 10 J. A. Frost, in the Front Pool, at Rodemer in Allen County, is reported to have pumped 10 bbls. from the deep pay at 114 feet below the black shale. No. 11 is spudding, same party is drilling No. 1 on the E. Britt farm, same vicinity.

In the Walker Pool, Andrus and Millet's No. 2 J. R. Goodrum, offsetting No. 4 Mayhew is a 2-bbl. stripper at 350 feet, 4 feet below the black shale.

C. A. Leeper's No. 1 Beauchamp, 400 feet south of the J. S. Collier at Collier's Station, in the Owensboro district, tested 4 bbls. from both the stray and Jett sands.

It is reported Raydure and Sons' No. 2 Mrs. Coop at Sulphur Creek in Cumberland County is still flowing at the rate of 7½ bbls. per hour from a total depth of 870 feet, 320 feet below the Pencil Cave No. 1 is being drilled to this deeper pay. Kanawha Oil Co.'s No. 3 Mrs. Coop was going ahead at 425 feet; Hook and Wise's No. 1 Ves Nun is shut down with a fishing job on top of the Sunnybrook sand; Carter and Combest's No. 2 Huddleston-Payne shut down at 780 feet. This well is being drilled deeper in search of the pay found in the Coop well.

In the Kettle Creek Pool, the Young Oil Co.'s No. 3 Coffee has been abandoned at 650 feet, according to reports; Newman, Petit and Hagan's No. 1 Wells was nearing the pay below the Pencil Cave at 700 feet; Daniel Boone Oil Co.'s No. 3 Maude Blythe is being drilled deeper as no oil was had after the shallow pay was shot.

At Bear Creek, Baldensberger and Thrasher's No. 1 J. C. Hood, is dry and plugged in the pay under the Pencil Cave. In this section a deep test is underway on the T. Bow farm being developed by Freeman and McCormick.

### Eastern Division

Operations in the Lee-Owsley Counties Field received quite a set back during the past several weeks as tests drilled in the hope of opening new producing areas all proved unproductive.

The Petroleum Exploration finished three dusters; one on the Dan Galligher, 1½ miles southwest of production at 1,320 feet; one on the David Deeds tract, three-quarters of a mile southwest of the Galligher, drilled to 1,322 feet, and one on the Hiram Gabbard, several miles in advance of the Idamay Pool. Other dry holes in this sector were Carl Prather's No. 1 Mahaffee on Big Sturgeon Creek, southwest of the Petroleum Exploration's gas field; Williams and Edward's Edgar Manis, 1½ miles south of a gas well on the Addison farm and 1½ miles south of Idamay, drilled 100 feet in the sand, and Ros Dulin's test on Little Sexton Creek which was carried to 1,232 feet.

New tests being made in search of either gas or petroleum in this area are D. L. Johnston's No. 1 on the New Era Land Co.'s property, half a mile above Little Sturgeon Creek; Petroleum Exploration's No. 1 Harve Marcum, offsetting the Botner farm; same company's No. 1 Mart Abston; Beamer and others' venture 2 miles south of the gas field on the headwaters of Sturgeon creek and Jewell and Hobb's test on the Flannery, 1,200 feet west of No. 1 Quillan, which looks like a small stripper at 1,312 feet.

### Davis Well Looks Good

There was, however, a ray of sunshine, evidenced in the showing made by Mart Davis in his test on White Oak Creek, southwest of the gas field, which, accord-

(Continued on Page 78)

# Fields of the Central West

By Whit

FINDLAY, Ohio, March 16.—The old Lima Field of northwestern Ohio does not show much activity due to the mud roads throughout the oil producing areas and but six wells were reported completed, four being producers with a combined output of 45 bbls., one a duster and one gas well.

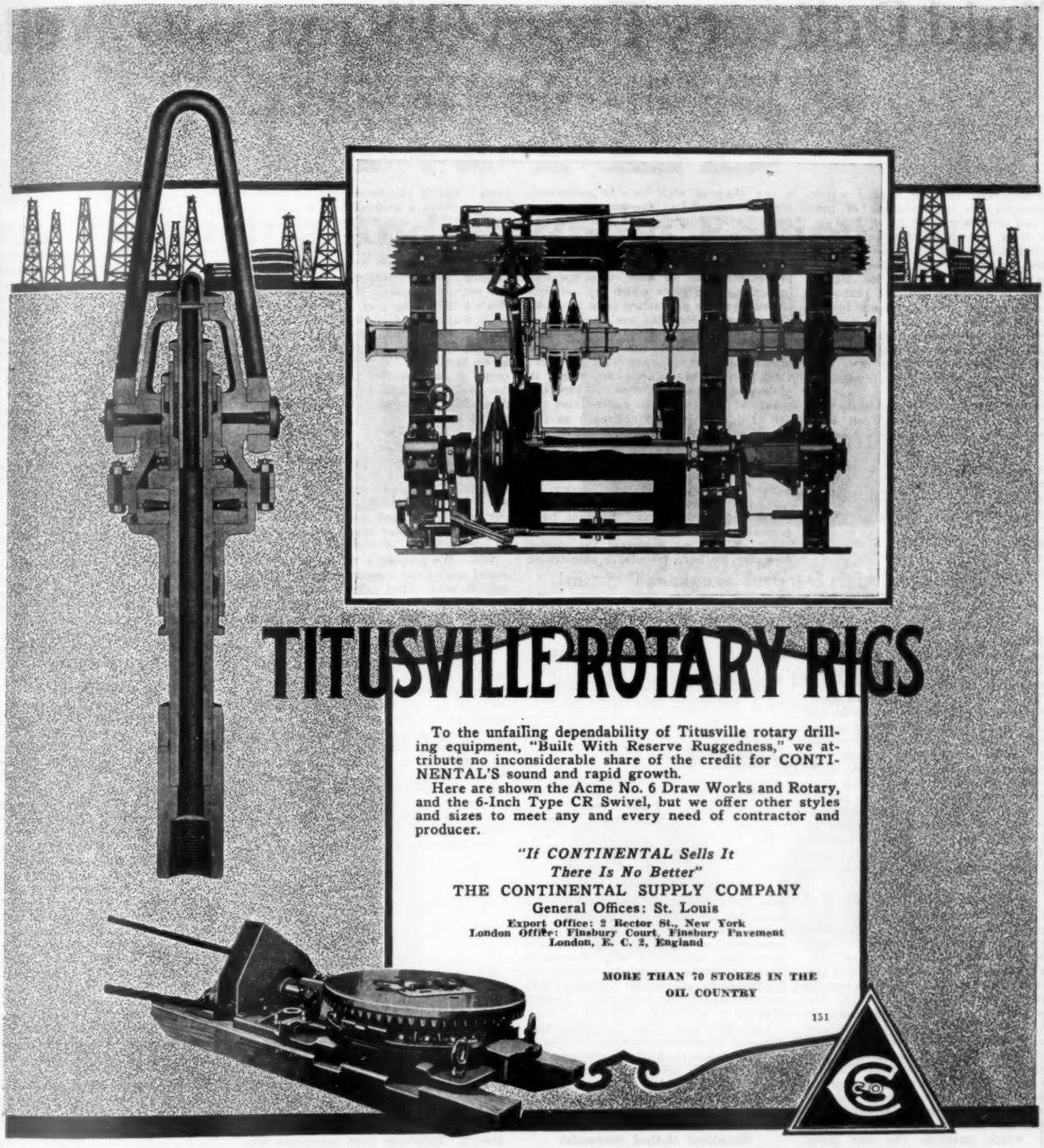
One of the important late finds was D. F. Mooney and others' well 750 feet from the south line and 300 feet from the west line of the M. Steineman farm, in the southeast quarter of Section 28, Jackson Township, Auglaize County. This well is in almost the extreme southwestern corner of the county, 10 miles south of St. Marys, about 1 mile west of the town of Minster and about 8 miles north and a little west oy the Newport Field, in Cynthian Township, Shelby County. The first 24 hours' gauge showed a production of 20 bbls. from the Trenton Rock, but the well is a heavy salt water producer as well. A strong effort is being made to exhaust the salt water and if this can be done, the well may be improved to a large extent in its oil production. It is several miles in advance of the old producing sections and may mean the opening of a new pool similar to the pools recently opened in Darke, Mercer, Auglaize and Shelby counties. With the wells drilled westward from the Mooney well as far as the Fort Recovery Pool, a distance of close to 20 miles, most of the territory to the west looks inviting. An occasional dry hole has been found, but the bulk of completions have proved commercial wells.

In the new Wapakonetta Field in Mounton Township, Auglaize County, where some good wells have been found of late, a duster has been completed that is quite a surprise as nothing of the kind was looked for. This well was drilled by the Fowler Brothers Petroleum Co., its No. 1 on the southeast corner of the John Musser farm, in the southeast quarter of Section 36, and about 1 mile west of Wapakonetta.

About 3 miles northeast of the town of Newport, near Panther Run Creek, a test drilled by the Cashdollar Oil Co., 600 feet from the south line and 400 feet from the west line of the B. Miller farm, in the southeast quarter of Section 21, Cynthian Township, Shelby County, showed a production of 5 bbls. from the Trenton. This well is about 2 miles northwest of where the original well of the township was drilled by the Eilerman Brothers, now the Eilerman Oil Co., on the Eilerman farm, a year ago, since when a number of producing wells and few dry holes have been drilled in Cynthian Township. A well drilled by Lyons and others, 1,500 feet from the north line and 300 feet from the east line of the John Bergman farm, in the northwest quarter of Section 20, same township, and north and west some over 1 mile from the Miller well, proved a light gas well. Bohleman heirs are working on No. 1 on Bohleman heirs farm, Section 22, east 1 mile from the Cashdollar well, while Lee A. Watson is drilling No. 1 H. Sherman farm, Section 27, 1 mile or so southeast of the Cashdollar well.

Roger L. Dill & Co. finished a 5-bbl. pumper on the W. H. Patterson farm in the southeast quarter of Section 30 in Brown Township, Paulding County. It is 500 feet from the north line and 300

(Continued on Page 80)



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151

# CONTINENTAL

# Fluid Delivery From Oil and Gas Wells

## Field Data, Computations and Extraneous Factors Are Considered in Tenth of Series of Articles on Subject

By Stanley C. Herold
*Petroleum Geologist, Stanford University, California*

The important laws of physics which are necessary in our analysis of primary and secondary functions of fluid delivery from reservoirs have been dealt with in 10 topics, the discussion of which has been briefly covered in the five preceding installments of the series. Stress has been placed upon the fact that several of these laws are expressions in absolute phase but they may be readily converted into the potential phase. Others are already in this phase which plays so important a role in production from reservoirs, consequently no conversion is necessary.

Many of the laws are based upon the conception of a perfect gas. What service can such an ideal substance render;

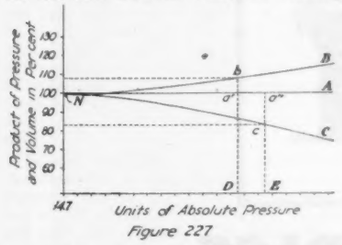


Figure 227

a substance which we believe does not and cannot exist in reality? The answer has been aptly stated by physicists in general terms as follows:

"The idea of the perfect gas is of great use in physics and theoretical chemistry because many mathematical arguments can be carried out with comparative ease when applied to the ideal perfect gas, arguments which become extremely difficult when applied to a gas which does not conform to Boyle's law and to Joule's law; and the most remarkable thing about such arguments when applied to the ideal perfect gas is that they lead to conclusions which have, in nearly every case, been confirmed by experiment on actual gas."

### Conditions Define Reservoir

**221.** We have proposed to adopt a set of conditions which will define the ideal reservoir and the ideal well for each of the three mathematical classes or "controls" which we find in our oil and gas fields at the present time. Mathematical arguments can be carried out with ease when applied to them. Subsequently we shall impress definitely known alterations upon conditions of flow from them, and mathematical arguments for theoretic performance shall be determined, likewise with ease. Finally, we may compare the mathematical derivations with observations on actual performance of any known oil and gas well and thus test a statement which parallels the one given above; towit: "The most remarkable thing about such arguments when applied to ideal and theoretic performance is that they lead to conclusions which will, in nearly every case, be confirmed by the performance of the actual well."

**222.** The use of formulas has been so frequently unsuccessful in oil and gas engineering that they have been largely discarded in favor of a graphic "decline curve" method of calculation.

Why have results calculated by formulas been unsatisfactory? Why were they not borne out by actual performance? There are four fundamental reasons for this, as follows:

### Results Unsatisfactory

(a) We frequently lacked the proper formula and we were unaware of the fact. Our formulas heretofore in use have been those including and associated with Torricelli's Theorem. We now have a new theorem with its own associated formulas, paralleling the preceding ones, yet differing from them in mathematical expression and physical significance. (Article 183).

(b) In cases where we possessed the proper formulas we were often careless in not selecting those which are not sensitive to erratic production from the well. The sensitive formulas are those which are fundamentally involved with the function of time. (Article 11). Many of our calculations can be made with pressure-volume relations; a relation which is always independent of time. Where the nature of the calculation necessitates the use of a sensitive formula, such as the pressure-velocity relation, we have not made proper adjustments with the data in accordance with altered conditions under which production took place; conditions which were definitely known at the time. These changes concern frictional back pressure and constant back pressure. (Articles 65 to 69).

(c) Where we possessed the proper formulas we have frequently substituted

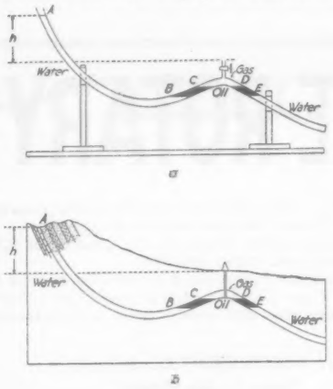


Figure 228

into them such numbers representing quantities measured from improper zero points of reckoning. For example, gauge pressures, or even absolute pressures, have been substituted into Torricelli's Theorem, whereas numbers representing the pressure above the constant back pressure should have been used. (Article 13).

(d) We have failed to differentiate formulas in absolute phase and those in potential phase. As a consequence we have frequently attempted to impose the properties of one class of formulas upon the other class. (Article 129).

Is it any wonder that our calculations are so often incorrect?

### Graphical Method Successful

**223.** Why has the graphical method of solution been so successful in our engineering practice?

The success has been due to the following reasons:

(a) The method does not require calculation with numbers. This means that we do not need a formula to begin with; nor do we need to care whether the quantities are measured from the proper zero point or not, because the curve automatically takes account of any difference between the correct and incorrect zeros by merely shifting its position on the plat, without any disfigurement.

(b) It is a method based on approximation. Any irregularities are smoothed out by eye so that functions involving time offer no obstacle to an easy solution. If the approximate results are closely borne out by the performance of the well, we point to our curves with pride; and if the error is a bit excessive, we have a golden chest full of excuses, alibis, subterfuges, accusations, etc., upon which we may draw to suit the occasion.

(c) We need not know anything regarding the differentiation of absolute and potential phases. We may talk about Boyle's law being a straight line, when, as a matter of fact, he stated nothing about straight line functions. He expressed his law as a hyperbolic function, as we have seen. That this hyperbola becomes a straight line for delivery from one class of oil and gas wells and a parabola for another class need not be known by us.

(d) The reason which crowns all others. Any oil or gas well performs exactly in accordance with the requirements of nature. It performs consistently, systematically and mathematically in spite of our handling, our manipulation, our calculations and our prejudices.

Is it any wonder that our curves are so successful?

**224.** We propose a return to the formulas with their attendant mathematical conveniences. How can this be a rational move in the face of the success we have attained with the graphical method? Have decline curves failed us in any way?

Yes, they have failed us miserably.

Beyond a few general laws for production of fluid (laws admittedly valuable) the curves have not and cannot indicate to us many simple relations which are existing between the various functions of delivery; relations which appear to be of extreme engineering and economic importance. Furthermore, they have frequently led us to formulate laws which may be perfectly correct for wells of one of the controls and we have inadvertently applied them to any and all wells.

Prolongation of curves into future time

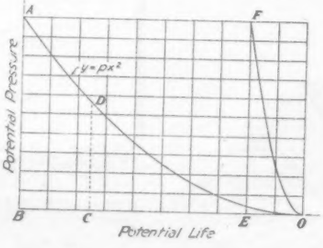


Figure 230

by methods of inspection only, for the purpose of obtaining estimates on future performance, is hazardous, particularly when the laws of performance are unknown. Estimates have sometimes been found to be quite erroneous. The unreliability of such a method is attested by the fact that engineers working on the same set of data often arrive at conclutions which are at variance. The personal equation of the computer has too great an influence on the results. One may well inquire into the probable status of bridge construction today had the inspection method been retained persistently throughout the history of this engineering task.

Curves have failed to supply any information on features and events in the reservoir interior while production is under way. We may have formulated opinions which, in themselves, are worthy enough, but the scope of their utility will forever remain restricted unless they are substantiated by definite and reliable mathematical proofs. Unworthy opinions may be modified or discarded and many previously unsuspected facts may be brought to light.

**225.** The use of formulas will require more accurate data than is necessary for the graphic method. Will the owner of the well be recompensed for the extra effort in obtaining them? Perhaps the best argument to be set forth in advocating better data is the display of the pecuniary benefits to be obtained by their use. Do better observations entail greater expense on the part of the operater? Not necessarily so, in the least. One good observation is worth more than 365 poor ones. Need this one cost more? Any benefit to be derived from the possession of perfectly reliable data may become evident as our investigation progresses.

### Extraneous Factors

**226.** What are these "excuses, alibis, subterfuges, accusations, etc.," which were mentioned above? We shall group all of them under one title, thus: "Extraneous Factors." They include the things in nature for which we can disclaim any responsibility. Their convenience has served us well, for we, as petroleum engineers, have had frequent need of a loophole through which to escape when the possible attack of besiegers appeared too imminent to please our conscience and our pride. Thus we have striven to attain and retain an ethical position among other classes of engineers. Let us discuss a few of these so-called extraneous factors.

**227.** "The natural gas issuing from the well is imperfect. Quite true. But if we make the corrections dictated by laboratory experiments on the same gas we do not account for all the discrepancies found in our calculations. We are put to the inconvenience of locating some other disturbing factor. Rather than do this it has been often an irresistible temptation to make no correction and leave ourselves unrestricted as to the amount of error we can ascribe to the imperfection of the gas.

Figure 227 represents diagrammatically a percentage PV-P curve which may be constructed for any particular natural gas. The abscissas are units of pressure and the ordinates represent the product and volume, absolute phase. The line A is that of the perfect gas; the product of the two quantities is constant, as provided by Boyle's law. The actual curve for a permanent gas will have some such position as shown by the line B, but where vapor is present with the permanent gas, the curve will appear somewhat as the line C.

If the pressure within a reservoir containing permanent gas alone were at any instant at the value D, then any cal-

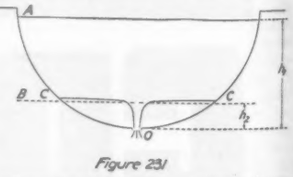


Figure 231

culations involving the product of pressure and volume must be divided by the percentage indicated to the left of the point b in order to place them upon the basis of a point a', the latter representing conditions as of the same reservoir and the same pressure but with a perfect gas. Thus we obtain a theoretic performance value for PV at the pressure D. Dividing PV by P gives us directly the point N at 100 per cent, the quantity of volume for the gas at final delivery under atmospheric pressure.

(Continued on Page 66)

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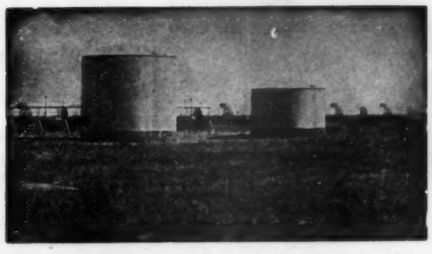

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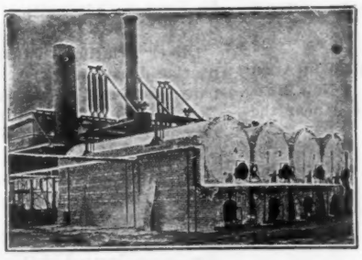

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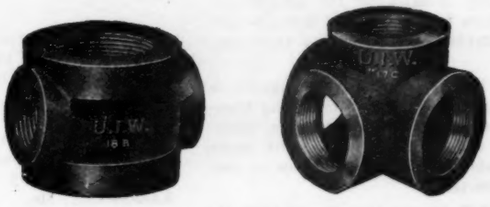

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# MEN KNOWN IN OILDOM

**A. P. Bjerregaard**

A. P. Bjerregaard, who for the past six years has been chief chemist for the Empire Refineries, Inc., was born in 1869 in Denmark. He came to America in 1872 and was educated at the College of the City of New York and at the New Mexico College of Agriculture and Mechanic Arts from which he has the degrees of Bachelor of Science and Master of Science.

Previous to 1910 his work lay in the iron, dyestuff and the varnish and paint industries. He invented and patented a number of new processes and products in the latter industry. Since 1910 he has been actively engaged in the petroleum industry as chemist and chemical engineer. He became well known in the East as chemist and technician for the Canfield Company. In 1918 he transferred his activities to the West as chief chemist for the Empire Refineries, Inc., in which position he did much to systematize and standardize the output of that company.

For many years he has been actively engaged in the work of the American Society for Testing Materials, and has been one of the prominent members of the committee which during these half dozen years has so well standardized the methods of testing petroleum products.

On February 1, 1925, he was transferred from the chemical department to the refinery department of the Empire, where he will devote his energies to developing improved methods of carrying on various refinery operations.

# PERSONAL PARAGRAPHS

Douglass T. Bolling of Bowling Green, Ky., has left for a tour of the Mid-Continent fields.

* * *

C. J. Hares, chief geologist for the Ohio Oil Company, was a recent visitor in Casper, Wyo.

* * *

Ray Miller, safety director of the Mid-Continent Oil and Gas Association, has resumed his new duties in Tulsa.

* * *

Jack M. Lowman, operator in Kentucky and Kansas, has left for Miami Beach, Fla., where he will remain for several months.

* * *

Kirby Thomas and John Eoghan Kelly engineers of New York, are making an examination of gas properties in Pennsylvania.

* * *

James P. Kem, attorney for a number of oil companies in Casper, Wyo., returned recently from a trip to his old home in Missouri.

* * *

J. M. Welles, veteran Kentucky operator, has returned to Bowling Green, Ky., after a month's vacation spent with his folks at Ashville, N. C.

* * *

H. H. Schwartz, attorney for the Empire States Oil Company, returned recently to Casper, Wyo., from a visit to his family in California.

* * *

C. E. Onsel of Bowling Green, Ky., has left for Toledo, Ohio, and other Eastern points, where he will look after his many oil interests.

* * *

W. J. Hayes, of the Ohio Steel Castings Company, Shreveport, La., left Tulsa recently for a trip to the oil fields of Louisiana, Texas and Arkansas.

* * *

H. H. Wrightsman, of Casper, Wyo., district manager for the Williamsport Wire Rope Company, recently made a trip to Riverton and Lander.

* * *

C. L. Maguire, president of the Maguire Petroleum Company, Chicago, has recovered from his severe attack of bronchitis and is back at his office.

* * *

J. M. Armstrong, formerly of the Roxana Petroleum Corporation, is a new addition to the geological staff of the Prairie Oil & Gas Company, in Tulsa.

* * *

W. T. Funk and R. W. Loucks, of the Carter Oil Company, returned to Denver, Colo., recently from a trip to the Fort Collins Field, in northern Colorado.

* * *

A. H. Tennent, general agent of the Fullers Earth Company of Cleveland, Ohio and Franklin, Pa., is making a business trip through the Mid-Continent territory.

* * *

C. W. Hanley, zone agent for the Gulf Production Company, in the Wichita Falls, Tex., district, has returned from an extended visit to his old home in Shamokin, Pa.

* * *

John Bott, who was associated with T. B. Slick in the Papoose Field, Oklahoma, is recovering slowly from an attack of paralysis which he suffered some time ago.

* * *

C. A. Keyes, opener of the Mitchell Pool in Allen County, Kentucky, and Mrs. Keyes, are in New Mexico, where Mr. Keyes is drilling in a well near the town of Artesia.

* * *

Francis McMahon, of the Caddo Oil & Refining Company, Shreveport, stopped off a few days in Tulsa on his way home from the convention in Kansas City, Mo.

* * *

John M. Carson, sales manager of the Cosden Sales Corporation, has been taking a short vacation at Excelsior Springs, Mo. He previously had visited the refinery at Tulsa.

* * *

Harold Vance, chief geologist of the United Oil Company, Los Angeles, Cal., has resigned to become petroleum engineer for the United States Bureau of Mines in Wyoming.

* * *

Elmer W. Heinze, manager of sales for the Wagner Supply Company of Fort Worth, Tex., spent several days in Tulsa recently and has opened a district sales office in the Kennedy Building.

* * *

H. Jensen of the Spencer Petroleum Company, Chicago, is on a trip throughout the Southwest visiting the various offices of the company. He will be absent from Chicago for several weeks.

* * *

F. D. Zimmerman, advertising manager of the Continental Oil Company, returned recently from the Salt Creek Field, Wyo., where he was gathering data for the Federal Oil Conservation Board.

* * *

Phil Taxman has opened the office for the Atles Petroleum Company, in Chicago. It occupies Suite 902 at 624 South Michigan Avenue, adjoining the offices of the American Oil Men's Association.

David McCalmont, Franklin, Pa., prominent operator in Venango County, was a Pittsburgh, Pa., visitor this week.

* * *

Forrest M. Towl, New York, president of the Southern Group of Pipe Lines, visited the Pittsburgh, Pa., office last week.

* * *

T. C. Sherwood, Jr., geologist for the Waite Phillips Company, Tulsa, is back on the job again after about a month's absence due to illness.

* * *

Walter Hazel, sales manager of the Parkersburg Rig & Reel Company was in Tulsa and other Mid-Continent points in the interest of his company.

* * *

George M. Curphey, formerly engineer with the Wiser Oil Company, has accepted a position in the geological department of the Empire Companies and will make his headquarters at Bartlesville, Okla.

* * *

Earl Morey, who has for many years called on the oil trade for the Cook Paint & Varnish Company, has recently opened an office and warehouse in Tulsa for his company in order to better serve the industry.

* * *

Lee Scott and T. A. Morgan, vice president and general manager respectively, of the White Eagle Oil & Refining Company, were recent visitors in Okmulgee, Okla., where they were looking over the territory.

* * *

J. C. Shepherd, assistant general manager of sales of the Sheffield Steel Mills of the Kansas City Bolt & Nut Company, is making a tour through the Mid-Continent fields in the interest of the bar, bolt and nut department.

* * *

Ralph Gardner, vice president of the Gardner Governor Company, of Quincy, Ill., is making a trip through the Mid-Continent fields and will go through the Rocky Mountain and California territory before returning home.

* * *

W. P. Simmons, co-partner with E. M. Treat in Kentucky and Texas, returned to Bowling Green, Ky., after spending three weeks in the Mid-Continent Field. Mr. Simmons was accompanied by R. H. Rehn of Cincinnati, Ohio.

* * *

Oliver Whiting, manager of the inspection-engineering department of the South Chester Tube Company, Chester, Pa., arrived in Tulsa last week from New Mexico and is visiting the Mid-Continent territory in the interests of his concern.

* * *

W. J. Randberger, who has been connected with the H. H. Cross Company of Chicago, has joined the sales organization of the Kendrick Oil Company with offices in Tulsa. Mr. Randberger, for several weeks was located at Portland, Ind., where the Cross company recently took over a refinery.

* * *

J. A. Smith, superintendent for the Petroleum Exploration Company, spent several days in the Western Kentucky Field looking over his company's properties. Mr. Smith stated that he was of the opinion that during the next few months a large amount of wildcatting would be done in the eastern portion of Kentucky and in Tennessee.

* * *

Lloyd M. Wyatt, representing the Houston Pump & Supply Company of Houston, Tex., manufacturers of oil field specialties including oil treating plants will make his headquarters at the Hotel Mayo in Tulsa for the next two weeks, but will visit the fields of which Tulsa is the center during his Oklahoma visit.

* * *

F. Julius Fohs, geologist, who has offices in New York, Tulsa and Dallas, but who has been spending most of the year in the Wortham Field and the Bazette district in Texas in the interest of the Humphreys Boyd Oil Company, of which he is vice president and chief geologist, was in Tulsa this week. Mr. Fohs was recently placed at the head of the petroleum section of the American Institute of Mining and Metallurgical Engineers and he intends to make it a constructive factor in the oil industry, especially along technological lines.

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# EQUIPMENT AND SUPPLIES

## MAINTAINS LABORATORY TO TEST ALL MATERIALS

In order to maintain a high standard of quality the Axelson Machine Co., of Los Angeles, Cal., maintains a complete laboratory for testing the raw materials which enter into the construction of the oil field equipment which it manufactures. The laboratory is completely equipped to make physical, chemical and microscopic examinntions of the raw materials used, samples of the materials being subjected to not one, but many different types of testing.

Tedious and exhaustive tests of the most advanced and scientific nature are often made. In many instances some particular part of each test must be greatly exaggerated in order to produce rapid failure of the specimen under observation; and this necessarily alters the working conditions. As a result, physical testing such as this must involve the testing of only one physical property of a given material at a time, and the result must be comparable, within reasonable limitations, regardless of the size or individual composition of the sample.

## HORTON TANKS ILLUSTRATED

The Chicago Bridge & Iron Works has recently issued an illustrated booklet contnining a description of the Horton welding process of constructing gas holders and storage tanks. Some interesting illustrations are shown of the Horton welded tanks at the Atlantic Refining Co.'s plant in Philadelphia, at the Standard Oil Co.'s plant in Casper, WWyo., and at Hamilton, By-Product Coke Ovens, Ltd., of Hamilton, Ont. In all of these tanks, the crowns and bottoms are welded by the electric arc method, and make a vapor-tight tank.

## OVERLOADING DIESELS

Dangers of overloading Diesel engines and the need for better training of engine room personnel were emphasized by Sir Fortescue Flannery in a paper recently read before the British Royal Society of Arts, in which he said in part: "I would like to utter a word of warning and advise to all who intend to install Diesel engines to have them made of ample power for the work which they would be called upon to perform, as there is nothing easier for an engineer, under the influence of either the captain or his owner to overload his engines (which can be done by merely turning a screw) and although, to begin with, no immediate bad results may be felt, yet the life of the engine will be seriously shortened, and the bills for upkeep greatly increased if overloading is permitted.

## SPECIAL HOT OIL PUMPS

E. N. Layfield, chief engineer of the Hope Engineering & Supply Co. of Mount Vernon, Ohio, was in Oil City, Pa., recently conferring with the engineers of the National Transit Pump & Machine Co. on hot oil pump equipment. The Hope Engineering & Supply Co. is erecting some special cracking coils at the plant of the Pittsburgh Oil & Refining Co. at Coraopolis, and needed in this work special hot oil pumps which the Transit shops were in a position to supply.

## VISITED TRANSIT SHOPS

Ward Miller, president of the Illinois Pipe Line Co., and J. H. Ferry, superintendent of the same company at Findlay, Ohio, were recent visitors in Oil City, Pa., inspecting new pipe line pumping machinery at the National Transit shops. Both Mr. Miller and Mr. Ferry expressed themselves well pleased with the new large vertical triplex power pumps just finished at the shops.

## BUYERS BALK AT HIGHER STEEL; OIL COUNTRY PRICES ARE HOLDING

By B. E. V. Luty

PITTSBURGH, March 16.—The doubt that existed during February as to whether the rate of steel production had passed its peak has been resolved by the official report, showing a daily rate of steel ingot production in February two-thirds of 1 per cent greater than the daily rate during January. As production was slightly on the upgrade during January, while a few mills in the Pittsburgh and Youngstown districts curtailed production somewhat in the latter part of February, it is clear the peak production fell around February 1. Daily rates of ingot productions were 154,830 tons in January and 155,833 tons in February.

The production rate during the two months was between 89 and 90 per cent, against an average in the past two years of 74 per cent. As industrial activity is not much different from the average of those two years, being better than in the poorer spell and not as great as in the best portion, it is the common belief that production has exceeded consumption somewhat, as various buyers replenished stocks.

The slight sagging off in production now expected would, therefore, merely represent an adjustment of production to the rate of consumption. Predictions are now being made in well informed quarters that mill operations will hardly run below 75 per cent up to July 1.

### Unfilled Tonnage

The steel corporation sprang a surprise on the trade with its unfilled tonnage statement for February. The steel market had been generally described as being dull, which would point to a considerable decrease in the unfilled tonnage, as it was known that shipments were running high, over 90 per cent of capacity. In the latter part of the month unofficial reports began to come out that the corporation would make a better showing than had been expected, and it had had some large special bookings, including line pipe orders, and might squeeze out an increase of 75,000 tons in the unfilled obligations. When the report came out, however, it showed 247,448 tons increase, which was even better, by a considerable margin, than the January report, which had shown 220,647 tons increase, with a considerably longer month than February. The corporation's shipments in February may be estimated at 93 per cent of capacity, and as the 247,448 tons increase represented 19 per cent of capacity the bookings were about 112 per cent of capacity, against about 105 per cent in January. The corporation has now shown gains for seven consecutive months, beginning with last August.

Steel market experience in the past week fully confirms what was said in last report, that the price advances of January are not holding. These were in bars, shapes, plates and sheets while early in February there was an advance in wire products. Generally speaking these advances are practically a dead letter, only small orders, if any at all, being booked at the higher figures. The market still holds moderately well, but not fully, the small advances that occurred in November and December.

There is a combination of the mills being anxious to run full, to distribute overhead over the largest tonnage, and of buyers very generally being strongly opposed to paying higher prices. This is a phenomenon noticed in practically all commodity markets.

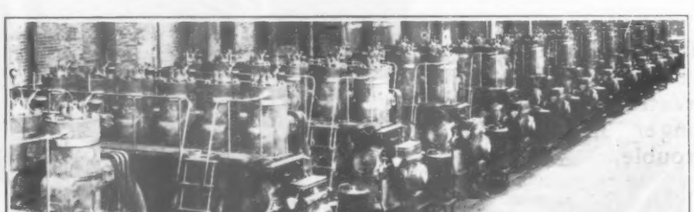
### Oil Country Goods

In pipe and oil country tubular goods there has been no issue as to mill prices, because pipe mill prices did not decline after the rise which ended in April, 1923, hence there was no effort to advance prices after the election. The mill prices seen to be holding absolutely, but every now and then there are reports of jobbers shading merchant pipe prices.

Buying of merchant pipe is perhaps not altogether as heavy as it was a month ago, at any rate it does not seem to have increased any with the progress of the season. In oil country goods there has been a fairly steady increase, of seasonal character. With the aid of recent line pipe business the pipe mills are running very well, probably at over 90 per cent of normal full. Mills have been stocking up on butt weld sizes of merchane pipe to take care of any increase in buying that may occur in the spring.

Foundry pig iron at valley furnaces ($1.76 freight to Pittsburgh) has declined $1 a ton on purchases of 20,000 tons of second quarter iron by the Standard Sanitary Manufacturing Co. The old price of $22 only attracted small prompt lot buying, consumers being unwilling to take hold for second quarter, while with the market now set at $21 there may be further buying on contract.

## DIESEL HAS INTERESTING FEATURES



"Y" engines on Test—Fairbanks Morse & Co.

One of the reasons for the increasing interest in the application of Diesel engines to a wide variety of power problems is in the increased dependability of these prime movers due to the constant mechanical improvement of the designs. These improvements have come about as a normal progress where the experience in the field has shown the advanages to be secured by such changes.

One of the recent changes in design which illustrates this progress in the design and building of Diesel engines is that of Fairbanks, Morse & Co. The former type "Y" engine was what might be termed a moderate compression Diesel, that is, it required the use of a heating torch for starting although after being started up the fuel was ignited solely by the heat of compression. The service which the engine of this type gave is shown by the fact that nearly 800,000 h.p. are in operation. Normal progress, however, indicated that an engine which would start without the aid of auxiliary ignition devices was an advantage and so Fairbanks, Morse & Co. has brought out the improved design.

No changes have been made in the general type of engine as the 2-cycle principle has been adhered to and the combustion scheme is based on solid injection of fuel as in the former type "Y." The engine operates under a compression of 500 pounds and the increased heat due to this compression fires the fuel without the aid of a torch when starting.

Piping has been eliminated or enclosed, the control has been simplified, and what few adjustments there are have been made more accessible. These changes have, however, been brought about without sacrificing in any way the simplicity of construction and the reliability of operation.

At the present time the engine is built in ratings of 37½ and 50 h.p. for the single cylinder unit 75 and 100 h.p. in two cylinders, 150 h.p. in three cylinders; 200 h.p. in four cylinders and 300 h.p. in six cylinders. The former policy of rating the engines on a very conservative basis has been followed as shown by the fact that the mean effective pressure is about 300 pounds, per square inch.

## NEW GAS COOLER

The Griscom-Russell Co., 90 West Street, New York, is now making a gas cooler, having several interesting and patented features. It can be used as an inter-after, or pre-cooler, can be readily disconnected, transported, and erected in a new location to meet changing conditions, has a practicably negligible pressure loss, and where desired can be furnished as a short-length twin unit to fit into constricted space without loss of cooling effectiveness.

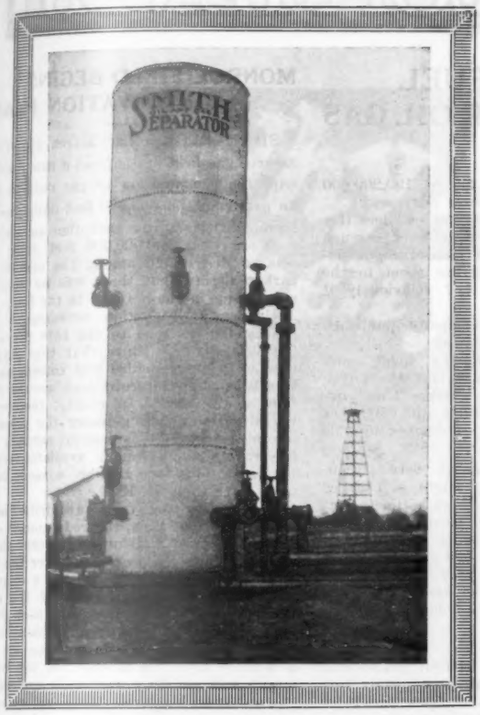
In construction, a number of metal discs are correctly spaced throughout the shell, each disc comprising a number of integral sectors formed by slitting the discs on a ridius and forming the metal to a slight angle with the axis of the shell. The tubes are inserted through holes in these baffles.

## BULK STATION EQUIPMENT

The Leader Iron Works, of Decatur, Ill., has recently issued a new bulletin, No. 100, showing a complete line of tanks and other bulk station equipment for the treating and handling of petroleum products. The Leader Iron Works manufactures a complete line of storing and handling equipment, and is prepared to send crews out which are expert in the erection, without the owners doing more than specifying their needs. Different types of storage tanks are included in the bulletin, as well as tanks for mounting on trucks.

## TO ENLARGE CAPACITY

The M. & V. Tank Co., of Wichita Falls, Tex., has closed a contract with the National Tank Co., of St. Louis, Mo., for the construction of a large steel building to be erected in the Scotland addition, Wichita Falls. The new building will be equipped with the latest and most modern machinery for the enlargement of the company's output of welded tanks and sight-flow separators.




*Type No. 10 Smith Oil and Gas Separator on the Alexander Lease of the Independent Oil and Gas Co., 1-9-9, in the Wetumka Field.*

# SMITH OIL AND GAS SEPARATOR

TYPES

Type No. 10—Capacity 25,000 bbls. oil, 100 million cu. ft. gas.

Type No. 1—Capacity 5,000 bbls. oil, 10 million cu. ft. gas.

Type No. 2—Capacity 2,000 bbls. oil, 5 million cu. ft. gas.

Type No. 3—Capacity 500 bbls. oil, 1 million cu. ft. gas.

RAISE the gravity of your crude as well as eliminating fire hazard and securing gas for fuel or natural gasoline.

By installing a Smith Oil and Gas Separator, your crude can be put in the stock tanks with the highest possible gravity thus enabling you to secure a higher price. This is important since the increase in the price of crude which also established several new prices for high grades of gravity.

We have representatives in all fields who will be glad to show you installations on the properties of some of the largest producing companies, who consider Smith Separators standard lease equipment.

## SMITH SEPARATOR COMPANY

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Export Representative:
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Cable Address: "Oilfield" N. Y.

Colorado Office:
434 U. S. National Bank Bldg.,
Denver, Colorado

Texas Office:
5400 Columbia Ave., Dallas, Texas

California Office:
2041 E. 38th St., Los Angeles, California

London Office:
Perkins & MacIntosh
Petroleum Tool & Boring Co., Ltd.
25 Bishopsgate
Cable Address: "Oleborers" London

# NATURAL GAS DEVELOPMENTS

## Gas Meter's Story Record of Struggle Before Perfection

By W. B. Brown

*Winfield, Kansas, Natural Gas Co.*

The first mention of natural gas was made in England in the year 1658, as the curious bubbling of escaping gases were noted in an old swamp lake. Gs is recorded as discovered in a coal mine in England in 1733 but no attempt was made to utilize these gases or to drill for them, as there was no means obtainable to do such work and then there was then no thought of ever using this gas for lights or fuel.

Man's eternal hunt for gold and his experimental methods of trying to change the baser metals into gold, led to the discovery of artificial gas, late in 1600, by a Belgian, Dr. Von Helmet. In experimenting with different fuels, he accidently discovered that a certain fuel yielded what he described as a "wild spirit." He found this spirit could be produced by means of combustion, fermentation and the action of certain acids on limestone. No further results were noted other than the secret of forming this gas. It was many years later before anyone attempted to utilize gas as a light for home or factory.

### Early Uses of Gas

It was not until the early part of the eighteenth century that serious efforts were made to use gas on a large scale. This was due to William Murdock, a Scotch inventor who may be described as the father of the gas business. Pall Mall was the first street in the world to be lit by gas and it caused great excitement, due to its brilliant effect over the other methods of those days. Years later gas street lighting became common over England, although its private use for homes did not occur until 1800. Gas was described as the unseen death and was termed very dangerous, even when it was introduced into the House of Commons, members were seen to be feeling the pipes and showing surprise at finding them cool, as they expected to find them hot.

After discovering gas and its uses, Murdock began experimenting with methods to manufacture gas on a large scale, since its use for illuminating was eagerly sought. Murdock succeeded in overcoming the difficulties in the manufacture of gas but there was one big block left unturned. How was the service to be measured to the consumer so that the manufacturer could be reimbursed? Finally it was decided that the service be paid for by the number of lights each consumer had. This plan went into effect, but it was abused by the public and instead of turning off lights during the day, they would let them burn all the time, causing large waste and needless loss to the manufacturer. In the mantime inventors were trying to invent something to register this unseen gas. It was next decided that service would be charged for at so much per light and based on a period of from 6 p. m. to 7 p. m. each day.

### No Way to Measure Gas

Men were sent to each individual consumer and the lines were turned on at 6 o'clock in the evening and turned off at 7 o'clock in the morning. This crude plan was very expensive as the lighting business began to grow and the public began to demand its service. It was seen that either the gas business was to fail or else some plan to measure each individual consumer's portion of gas must be invented. The United States took up the idea of gas lighting and Newport, R. I., was the first place in this country to use gas for this purpose, in 1806. Finally a gas man named Samuel Clegg,

(Continued on Page 76)

## GAS OIL AND FUEL OIL USED AS FUEL MORE PROFITABLY USED FOR OIL GAS

By C. R. Burke

In view of the appointment by President Coolidge of the Federal Oil Conservation Board, and the questionnaires sent out by it to various members of the oil industry, this article has been written to show to what extent the gas and fuel oil consumed as fuel could be utilized to conserve crude oil if converted into fuel gas, gasoline, gas and residual fuel oil, amorphous carbon and coke when the need comes for such conservation. In 1915, Franklin K. Lane, secretary of the interior, said, speaking of petroleum:

"An absolute Government would prohibit a barrel of it being used for fuel before every drop of kerosene, gasoline and other valuable constituents had been taken from it."

Whereas coal can readily supersede fuel oil in most instances, a corresponding substitution for gasoline is much more difficult. Up to the present time the cost of producing gasoline has been materially below that of manufacturing alcohol, benzol and like substitutes in large quantities.

Analyze the figures for petroleum for 1923 and you get some inkling of the extent of the fuel oil business, which also measures the extent of waste in petroleum. Out of our total production of 725,000,000 bbls. exactly 317,000,000 bbls. of 43.5 per cent, was disposed of as liquid fuel for power purposes and refinery fuel at a price below its fuel value as compared with coal. In other words, coal could have performed the work of this oil, and thus have made available a higher percentage of the more valuable petroleum products, including gasoline.

Using an average yield of 40 per cent from cracking, it follows that if the demand for gasoline had existed last year, and the price justified it, by cracking the 317,000,000 bbls. of heavy oils burned as fuel we could have produced an additional 126,000,000 bbls. of gasoline and still have had left a residue of 190,200,000 bbls. to be sold for power purposes.

The question naturally arises, does this procedure, that is, the burning of so much heavy oil under boilers conserve our national resources or utilize them to the fullest economical value? Obviously it does not."

A prominent gas company published the following advertisement:

"In 1922 this company spent more than $1,000,000 in improving the physical features of its property. These improvements made possible the 100 per cent natural gas service enjoyed by this community this winter.

"If these improvements were permanent betterments, they might be charged off our accounts a little at a time. But it is a feature of the natural gas business that little concerning the supply is permanent. Lines laid last year may have to be taken up this year. Some times compressors have to be moved and thus made available for new fields. Our plant is ever changing.

"For 1923 another large amount must be spent to keep the natural gas service up to its present high standard. Most of this sum must come from the rates paid. Therefore the rate for natural gas must be enough to enable us to maintain the supply. We do not enjoy such a rate now. There is no other way to obtain the money needed. Unless we are granted a fair rate, our customers cannot be properly supplied. It is as much to their interest as ours to settle this question right."

Frank L. Pringle of the Lima Natural Gas Co., Lima, Ohio, in an address before a convention of the Natural Gas Association of America, stated, as published in The Oil and Gas Journal of May 22, 1924, as follows: "In order that communities now enjoying the privileges

(Continued on Page 76)

## MONROE FIELD BEGINS CONSERVATION PLAN

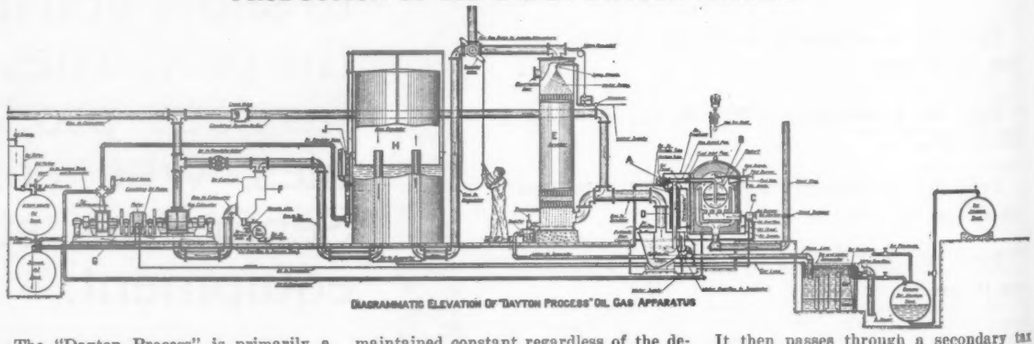
SHREVEPORT, La. March 14.—The Monroe gas field has entered a new period with the consumption of gas reduced to an arbitrary 299,000,000 feet daily, maximum. Although the reduction amounted to more than 100,500,000 feet daily, it was so distributed among the operating carbon plants that there was no noticeable let-up in the activity in the field.

Under the reduction consumption is practically returned to the rate prevailing last spring. Since that time many new wells were drilled and consumption was boosted to a record peak around the first of the year. In reality, therefore, the situation existing under the present allotment program is merely removal of the excess supply made available after the agitation for greater conservation took place early in 1924.

Because the companies have drilled new wells since that time, the reduction is expected to affect well owners rather than the companies themselves. Under the allotments each company can use a certain amount of gas daily. Much of the gas used by the carbon makers has been purchased under contract from resident well owners. With their consumption set at a definite figure, it is expected the companies will use their own wells exclusively as long as possible. This will remove an important source of revenue from the standpoint of local development as those well owners who have not obtained long-term contracts will be without a market for their gas.

Although merger of the carbon company offices was expected to take place around March 1 under the program of the United Carbon Co., established by union of nine companies operating in the Monroe Field, no definite changes have yet been made and all the offices of the companies involved continued to operate separately. It is expected a centralization order will be issued carrying into effect the merger details in the near future.

## PRODUCTION OF OIL GAS BY DAYTON PROCESS



DIAGRAMMATIC ELEVATION OF "DAYTON PROCESS" OIL GAS APPARATUS

The "Dayton Process" is primarily a method of supplying the heat energy for the production of gas from oils by burning a fraction of each gallon of oil inside a closed retort—supplying only enough air to burn this fraction, and utilizing the heat generated by the combustion of this fraction to crack up the remaining oil into gases. This internal combustion gives the highest heat efficiency in furnishing the requisite for oil gas production.

The following brief description, considered together with the illustration, a diagrammatic elevation of the "Dayton Process," gives a general idea of the operation of the apparatus:

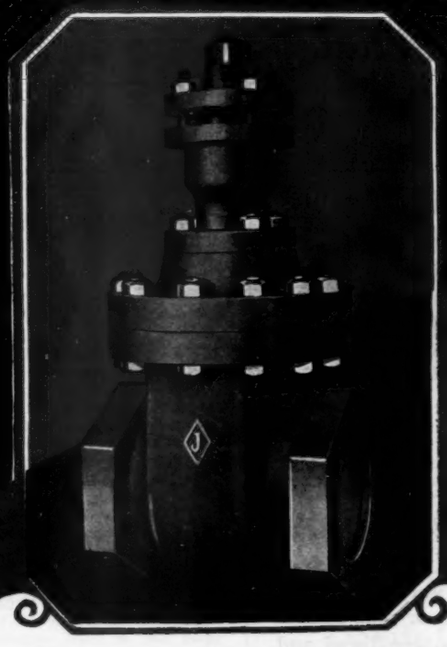
Fuel or crude oil is atomized and mixed with air in an atomizer (a) of such design that the ratio of oil and air is maintained constant regardless of the degree of air pressure. The mixture then passes through a metal retort (b) fixed in an insulated setting, which has previously been heated by an oil burner (c) to a high temperature.

Just enough air is admitted to the retort with the oil, in a maintained ratio for all pressures, to liberate by partial combustion, sufficient heat to gasify the balance of the mixture and maintain the process without the oil burner. The hot gas then leaves the retort and passes through a preheater (d), by means of which the incoming air is brought to a high temperature by exchange of heat from the hot outgoing gas before admixture with the oil in the atomizing device.

The gas then passes through a hydraulic main and a primary scrubber (e) where the lighter tars are precipitated. It then passes through a secondary tar extraction system (f) where the heavier tars are removed, leaving the gas free from tar and sulphur—as the latter is taken out of the primary scrubbing operation.

A combination compressor-exhauster set (g), operating at very low pressures, forces or draws the oil, air and gas through the system. A small regulator (h), of 300 to 500 feet capacity, floats on the gas line and if the "make" of the plant is not used as soon as made, the holder rises and opens an air relief valve (j), which reduces the air pressure under which the retorts are operating and correspondingly reduces the gas "make." When the use of gas again increases, the gas from the regulator is consumed and the air relief valve closes, reestablishing the air pressure and automatically increasing the gas "make."

# Why Experiment when you can be sure?



"We Sell Everything Used or Needed About an Oil or Gas Lease"

Are you absolutely sure that you are getting the greatest amount of valve service for the money you pay out?

Have you given Jarecki Valves a trial to see if they don't offer greater value per dollar of cost than you now receive?

We honestly believe (and 73 years' experience makes our belief worthy of consideration) that the present-day Jarecki Valve represents the highest development of valve design and manufacture yet attained.

Its design is the essence of the best thought of several *generations* of engineers.

Its materials are the best that a big plant with every known facility for testing materials can produce.

Its operation is causing an increasing number of oil men to standardize on Jarecki Valves each year.

Jarecki Valves take the experiment out of valve buying. There is a Jarecki Store in your neighborhood, ready to be of service.

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St. Louis Pittsburgh El Dorado Tulsa Eastland 133

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VALVES AND FITTINGS

# ICE COLD— RED HOT

*The temperature of the fluid pumped is immaterial.*

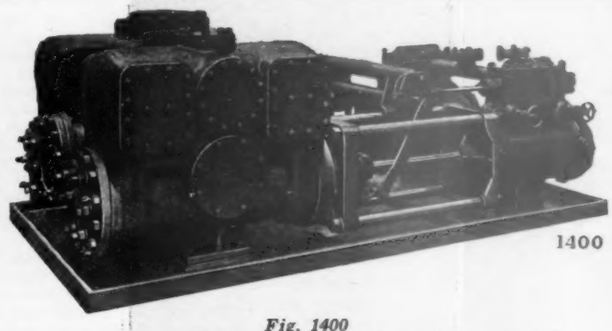


*Fig. 1400*
*12x9x18" Block Valve Pump with base plate drip pan, for 300 lbs. working pressure.*

**The new TRANSIT Heavy Duty Block Valve Pump was designed to handle either hot or cold liquids or semi-liquids around refineries. The material pumped is introduced and expelled from the pump through large direct fluid passages that cannot trap air, and through special design valves now made larger than ever.**

**This pump can be operated so hot that the fluid end will glow on a dark night, and so cold that frost will form on the fluid end. No trouble will be experienced from loose valve stems, loose valve guards, or loose separate valve seats, because such things are not part of this pump.**

**Pumping hot tar around 700° Fahrenheit is hard on rod packing. So the stuffing boxes are made deeper to lessen wear on the packing and rods. Tie-bar construction renders the stuffing boxes easier of access, thereby inviting more frequent and accurate adjustment.**

***(Complete information gladly furnished)***

## NATIONAL TRANSIT PUMP & MACHINE CO.

**OIL CITY, PA.**

**District Offices:**

**NEW YORK PHILADELPHIA PITTSBURGH CLEVELAND TULSA HOUSTON DENVER**


## FLUID DELIVERY FROM OIL AND GAS WELLS

(Continued from Page 58)

Likewise, the calculations for a reservoir containing both permanent gas and vapor with the pressure E must be divided by the percentage to the left of e so as to place them upon the basis of a."

**228.** "The encroachment of water diminishes the size of the reservoir." It has been argued that the size of the reservoir does not remain fixed but becomes smaller as the gas is drawn and water or oil advances into a part of the space formerly occupied by the gas. The size of the gas pool certainly becomes smaller for every cubic foot removed but the liquids which encroach upon it are in the same reservoir. The reservoir is not confined to some particular space which happens to contain a fluid of greater economic value than other fluids which may be associated with it. The mathematics of delivery are not concerned with the discriminations we may make upon monetary values of the products.

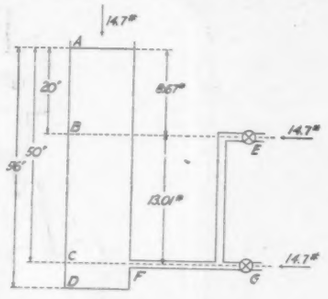


*Figure 233*

The question as to the diminution of the size of the reservoir with all fluids contained therein depends only upon whether it is of infinite or finite control. (Articles 99 and 100).

Figure 228 (a) represents a piece of glass tubing, bent, equipped with a stopcock and filled with gas, oil and water. The opening of the cock first provides for the production of gas which occupies the space from C to D. Although the gas is under pressure, due to the head h, it does not, of itself, constitute the entire reservoir. All the gas, and all the liquids to the left of the stopcock are in this reservoir. We commit an error if we state that the mathematics for the production of gas are upset by the fact that oil is encroaching upon the space formerly occupied by it. Of course, the surface of liquid at A may be descending, but that in itself is mathematical and it provides the mathematics for the expulsion of the gas.

Figure 228 (b) shows the same section on profile as in the case of the glass tube. The "tube" has become a cylindrical sheet with horizontal axis, its extent being undefined in the direction perpendicular to the drawing. The setting has been altered and the scale has been changed. The interior or the reservoir is no longer hollow, but is filled with a porous medium. Does the situation now call for a difference in the conditions of fluid production? Not at all, provided the head of liquid in the section AB is sufficient to overcome any Jamin action within the reservoir. (Articles 114 and 182).

**229.** "The fact that the reservoir is filled with a porous medium upsets any calculations made upon delivery." This is not true in the case of volumetric control reservoirs. It is certainly true when we attempt to apply volumetric control formulas to capillary control reservoirs. The action of porosity is not at all mysterious and we shall remove it from the list of extraneous factors.

### Gas Pressure

**230.** "The gas pressure has been removed." This is supposed to be due either to natural causes or to someone's negligence with the particular well or with other wells in the same field.

With open type reservoirs where interest is centered only in the production of oil, gas is but a nuisance. It has no pressure intrinsically its own but pressure due only to the weight of liquid upon it. Its liberation from the dissolved state upon release of pressure sets up the Jamin Action in all reservoirs containing a porous medium. It is less soluble in water than in oil; the release of pressure on both liquids provides for more bubbles within the oil space than in the water space. What is the result? Water reaches the orifice more readily than oil.

The statement has already been made that gas is the only source of energy in the closed type reservoir. Its presence is therefore desired and its conservation is essential. It sets up the Jamin Action but we cannot complain. It is the way of nature and the best we are able to do is to understand it and control it to the best advantage.

In the regular course of production, nature does not remove the gas pressure until equilibrium is completely established. The mathematical relations between the various primary functions of delivery remain unchanged until the end, unless oscillation to another control takes place in the meantime. Consider the curve AO of figure 230. It possesses the formula:

$$y = px^2$$

and represents a pressure time curve for a reservoir of either volumetric or capillary control. (Articles 80 and 84). This is a parbola with its vertex at O and its axis vertical at this vertex. In the course of production the pressure declines from A to D but DO is just as much a parabola as is AO. The path has become more nearly horizontal, it is true, but that is what a parbola should do as the vertex is approached in that manner. Between E and O it has become nearly flat. In fact, it seems to travel along for a distance over the X-axis itself. Values have become so small that they are not much greater than zero, yet, if the ordinates are multiplied by some constant number sufficiently great, then we may raise the curve to a point F. FO is a true parbola with the same vertex and axis as AO but with a different value of parameter, p, in the equation. This illustrates a feature which reoccurs frequently in our investigation. The eye is not always competent to judge the characteristics of a plotted curve.

### Settled Production

It appears that the general opinion held concerning oil and gas wells is that they are not reasonable or sane until a point has been reached where there is "settled production." We know well enough what the term means to the owner or operator in the matter of income. In the mathematical analysis of production, however, there is no such thing as settled production. There certainly are features which may be misnamed if desired and there can be no objection to doing so, provided the full mathematical significance of the features are understood.

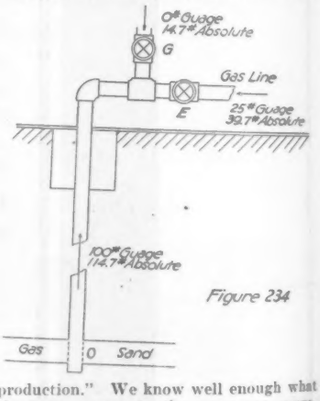


*Figure 234*

**231.** "Conditions beyond our control dictate erratic production from the well." There are economic conditions, supply and demand, marketing facilities, transportation facilities, etc., which certainly are beyond the control of the individual or the corporation operating wells. There are also technical conditions, over which we have some amount of influence but which we are unable to eradicate com-

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J. C. O'Donnell, Proprietor
Oil Well Drilling and Fishing Tools
Warehouses and Shops at
BILLINGS, MONT. — SHELBY, MONT.
We have just received a new car of
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pletely; the well chokes or "sands up" paraffin precipitates around the orifice, ice may form at the orifice. We often shut the well down in order to clean it out. All these irregularities prevent production at a mathematically normal rate. We say the rate is erratic. In addition, there are physical conditions which interfere. We find that natural laws conflict at times; one law prevents the completion of an act due to another. If we are to use formulas, will the results of calculations be unreliable? How are we to overcome this feature of erratic production? Most certainly, the data which it furnishes will be erratic.

Figure 231 illustrates a vessel containing water; the familiar washbowl, say. A represents the initial position of the surface of the water with head $h_1$ on the orifice o. The volume of water in the vessel is now $Vo_1$ and the rate at which it begins to flow from o is $Ve_1$. A few seconds later the surface has lowered to B, the head declines to $h_2$, the volume of water remaining is $Vo_2$, and the rate of flow has declined to $Ve_2$.

If the condition of the orifice remains constant, "production" from the orifice

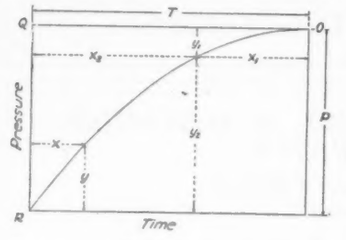


Figure 235

is mathematically regular; i.e., the volume remaining, the velocity at the orifice, and the pressure head on the orifice are all mathematically related; and the formulas expressing the actual relations between these primary functions of delivery possesses fixed constants throughout "the life of the reservoir."

However, we may manipulate the orifice while flow takes place. In any way imaginable we may apply a quantity of sand, clay, parafine or ice at the orifice, always permitting some flow. All these would interfere with the rate of flow and cause erratic production. Then velocity-time and pressure-velocity formulas would be unsuitable for making estimates on future performance because the constants take on a series of values in the course of the life of the reservoir. In addition to our own acts of manipulation, nature itself may upset flow conditions. The water may begin to whirl within the vessel at any time and air then spouts downward to the orifice. This act interferes with the completion of a normal act due to pressure on the orifice. Calculations made on flow before whirling will not be fulfilled when such a disturbance has set in. Instead of the surface being horizontal at B, it takes a position at CO, altering the pressure on the orifice and consequently causing a different rate of flow for an equal amount of liquid remaining in the vessel at the instant.

**Pressure Volume Relation**

The formulas for velocity-time and pressure-velocity both involve the function of time. For the purpose of making estimates on future performance, why not use a formula which is independent of the function of time and therefore independent of all manipulation of the orifice? Shut off the flow completely at any time desired and observe pressure-volume relations. The decline in potential pressure and the amount of fluid which has been produced in the period of this decline bear a definite mathematical relation under all conditions of flow. It is immaterial whether 5 seconds or several days were required for the decline in volume remaining or the accumulation of volume produced. The rate may have been erratic or it may have been normal in the interim.

All estimates on future performance of oil and gas wells for the purpose of investment, credit or taxation should be based upon pressure-volume relations for exactly the same reasons as in the case of the vessel just mentioned. No matter how erratic production may be from the well or what the condition of the orifice may be, the total volume to be recovered from a given finite control reservoir, at a given constant back pressure, is the same.

So much for total volume to be recovered, which is, in fact, total income to be derived from the well. How about the time required to recover it? That is also important in the matter of investment. Then we bring the formulas involving time into play. We set up a theoretic curve showing exactly what the well should be doing at any instant in its life and use it as a basis of comparison for actual performance of the well. If the well does not maintain the theoretic decline but falls below it, we have knowledge of any inefficiency in the handling of the well in the field and we can proceed to make improvements in order to bring the well up to standard. If the well perform better than the theoretic curve shows, we know that the standard set up before was not high enough. We "boost" the standard on the well and hold to the new theoretic performance curve from then onward.

Thus we see that each formula for the primary functions of delivery has its specific uses. The illustration has been confined to three formulas: Pressure-volume, velocity-time and pressure-velocity. There are, in all, 21 primary function formulas. (Articles 8 and 9). There is a time and a place for each of them in the complete analysis. Let us take advantage of their peculiar mathematical properties. We shall find their study a matter of scientific interest and of economic value.

**Hydraulic Versus Gas Engineering**

**232.** No line can be drawn between the fundamental principles of oil engineering and those of gas engineering. In addition to their frequent joint occurence in the same reservoir, we have seen that the two forms of fluids have identical properties in the science of mechanics. (Article 202.) An engineer may specialize on one type of fluid or the other but it seems that we are approaching a point where the specialist must understand both types equally well. The hydraulic engineer has developed a field which is quite apart from the sphere of finite control reservoirs; his problems largely, if not exclusively, deal with the infinite control. So in the latter all three classes of engineers come together on common ground. For this reason we shall begin our detailed study with reservoirs of the class we have designated as hydraulic control.

Three hundred years devoted to the development of the science has brought hydraulic engineering to its present state

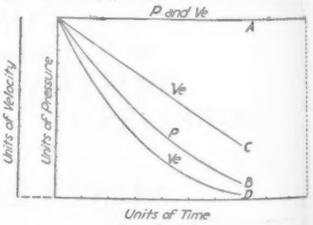


Figure 236

of efficiency. The fluid concerned has been liquid in form, one which possesses a definite volume for a given mass. The space occupied by it in a vessel is proportional to this mass. Quantities of liquid can be definitely visualized, measurements can be easily made, and there is apparently little danger of substituting incorrect values into the equations employed in making calculations upon it.

The science of gas engineering, on the other hand, is comparatively young in age. The given mass of fluid has no definite volume, for it will fill any vessel in which it may be placed. Quantities of gas are not so readily visualized, measurements are not so easily made and there is great danger of substituting incorrect values into the equations employed. As we shall soon see, values have frequently been used in gas engi-

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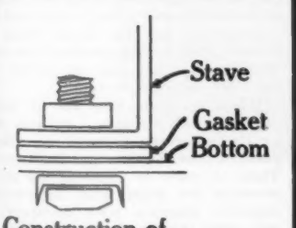

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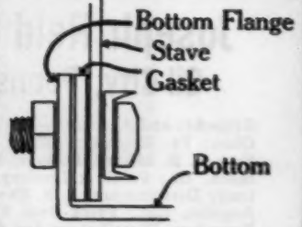
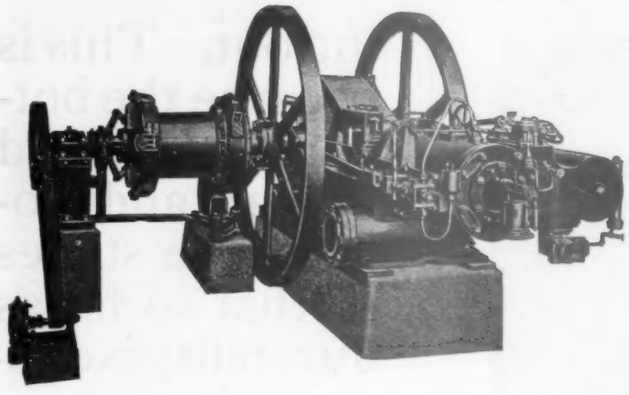


Construction of a Gantz Bottom

# REID OIL ENGINES



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neering calculations which appear not to conform to the principles of fluid mechanics.

**Oil Engineering**

Oil engineering is still newer as a science. The oil engineer occasionally shows signs of being in a state of bewilderment; he observes the hydraulic engineer dealing with a liquid according to well established principles, and he also observes the gas engineer handling a gas in a manner of his own. There is a difference in principles which he can not quite understand, and, naturally, he is somewhat agitated because he realizes that his oil well involves calculations on both liquids and gases. Let us see if we can locate any disagreement between the conceptions of the hydraulic and gas engineers.

**233.** Figure 233 illustrates a cylindrical tank with axis vertical, equipped with an orifice at F and valves at E and G. The tank holds 56 feet of water; a head to be maintained constant (hydraulic control), or allowed to decrease according to flow (volumetric control. Assume that the valves can be given position which provides for identical openings at E and G; identical in size opening and in friction offered to flow. The hydraulic engineer, in computing the rate of flow from E would use Torricelli's Theorem with an empirical constant included to account for the coefficients of contraction and friction:

$$Ve = c\sqrt{2gh}$$

What value would he substitute for h? That for 20 feet of water, an amount equal to 8.67 pounds per square inch, multiplied by 144 in order to obtain pounds per square foot. Observe that the total pressure within the tank at B is 14.7 plus 8.67 pounds per square inch, the former due to the pressure of the atmosphere. The pressure against production at E is also 14.7 pounds, so that:

$$h = 14.7 + 8.67 - 14.7$$

The atmospheric pressure cancels out in the calculation. The presence of a vacuum pump at E would necessitate the consideration of the atmospheric pressure at the two points, A and E.

The quantity 8.67 is the potential pressure at E; i.e., it is the total pressure on the inside, minus the constant back pressure. Considering F as the true mathematical orifice will not give h of a different value. The total pressure at C is;

$$14.7 + 8.67 + 13.01$$

and the constant back pressure against F is;

$$14.7 + 13.01$$

the difference between them remaining the same as before.

Supposing the reservoir to be of volumetric control, what volume of water is recoverable from E? Obviously, it is just that quantity between A and B.

In making calculations for velocity and volume at E, it is safe to say that no hydraulic engineer ever took the value of the potential pressure at G as being suitable for calculations on E. Nor would he consider taking measurements with a pitot tube at G and claim it to be the flow at E. Nor would he say that the volume to be recovered from E is that fluid in the tank between A and C. He is unable to get the quantity between B and C until he reduces his constant back pressure by the amount of 13.01 pounds; i.e., the weight of the column of liquid between E and G.

Now what does the gas engineer do?

**234.** Figure 234 is a diagrammatic sketch of the head of a gas well, equipped with a valve E on the gas line and a valve G opening to the atmosphere. We may ignore the weight of the column of gas between the head and the orifice below at O. Assume that the closed-in pressure of the well is 100 pounds per square inch on the gauge, or 114.7 pounds absolute. Also assume that the line pressure for a given period of time is constant at 25 pounds gauge, or 39.7 pounds absolute; or that the line pressure for this period of time averages this amount.

The potential pressure for the well on flow into the line is:

$$114.7 - 39.7 = 75 \text{ pounds}$$

Open flow tests are made on the well by allowing the gas to escape into the atmosphere through valve G. The potential pressure on open flow is;

$$114.7 - 14.7 = 100 \text{ pounds}$$

The constant back pressure has been reduced by an amount equal to the line pressure.

The value for h in Torricelli's Theorem cannot be taken as 100 pounds if calculations are to be made on flow into the line. Obviously, 75 pounds is the correct substitution.

Instead of calculating the velocity of flow in this manner it is customary to measure the rate directly with the pitot tube. The result is the same; we have a velocity "as of a potential pressure of 100 pounds." We recognize it as a velocity which is not correct as for line pressure, yet we continue to take open flow readings in many fields. These figures possess no advantages and certainly possess disadvantages as compared with measurements against the line pressure. The open flow rate can be converted into the line rate by the proper calculation for the reason that they are mathematically related to each other. It seems illogical to make such an open flow test and convert it, for the simple reason that the flow in the line can be measured directly and with greater accuracy.

**Estimating Volume**

In the matter of estimating volume recoverable from the well we see strange practice. It is not the potential volume as determined by the constant back pressure of the line which is given credence as the true volume recoverable, nor is it the open flow volume which, when removed, will provide for equilibrium in the reservoir as against the atmospheric pressure, but the absolute contents of the reservoir. That volume which the well would produce with a perfect vacuum attached at G, measured in cubic feet at atmospheric pressure, is supposed to be the capacity of the well.

As with the rates of flow, there is a mathematical relation between the potential volume for one value of constant back pressure and another value of the same, for a given well. Having calculated the potential volume for any given constant back pressure, the amount may be converted into the potential volume as of any other constant back pressure in the same manner whereby the hydraulic engineer calculates the volume recoverable from the tank of figure 233, through the valve G, given the volume available from valve E and the vertical distance between the valves. Knowing the potential volume for an oil or gas well and the value of the constant back pressure, we may compute the minimum constant back pressure practicable and determine the potential volume for this minimum. Thus we will have valuable information on the ultimate capacity of the well.

Neither the hydraulic nor the gas engineer can get all the fluid out of his reservoir. In the case of the tank, the liquid between C and D is unavailable and furthermore, even as that between A and C is delivered from G, air enters from the top and replaces the liquid. This air is functioning in velocity, pressure and volume as flow takes place and is, therefore, truly a part of the reservoir. This mechanical principle is important because it shows us that the closed and open types of reservoirs are not fundamentally different.

**Calculating Potential Pressure**

**235.** Wells, as producers of fluids, will tell us all about themselves. If they were to be given the power of speech there is little which they might add to the information we can obtain from their records after having produced for a time. They have a language of action which we must learn to interpret.

We began some time ago by mentioning potential pressure. It was defined as the difference between the closed-in pressure and the constant back pressure. Then, in order to compute the potential pressure we must first determine the closed-in pressure with accuracy. We will need this as measured above absolute zero, which means, of course, the final pressure as shown by the gauge after the well has been shut in for a sufficient length of time, plus the atmospheric pressure. The gauge, as we know,

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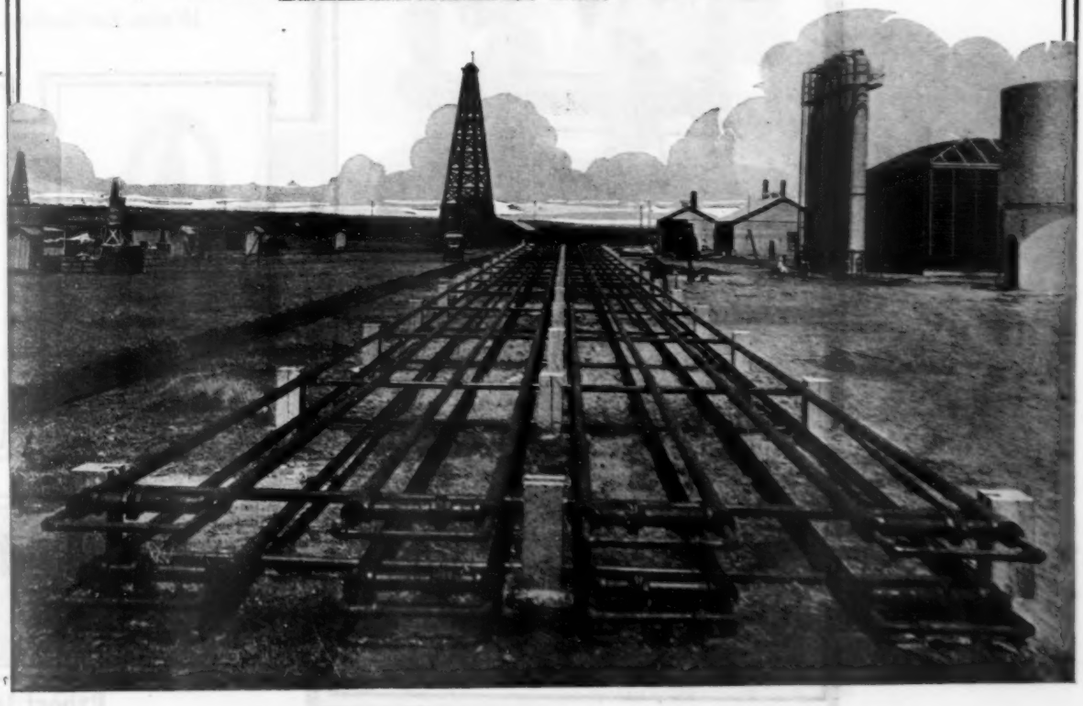

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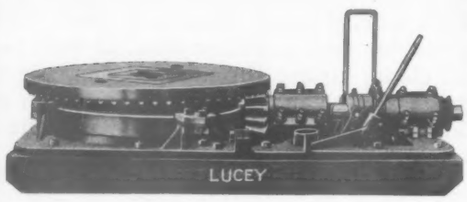


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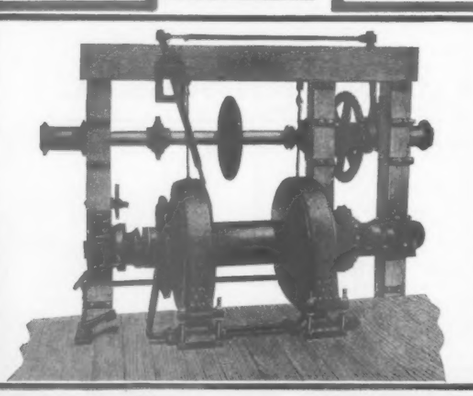

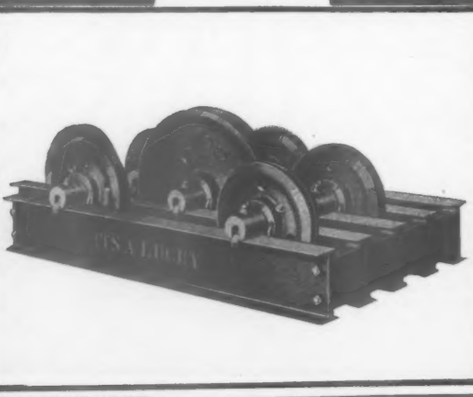


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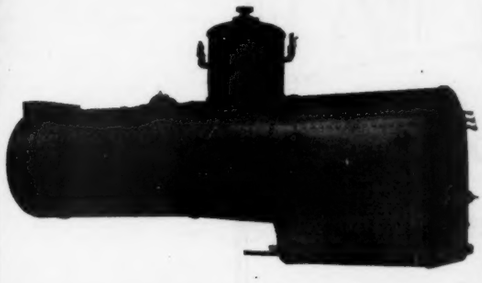

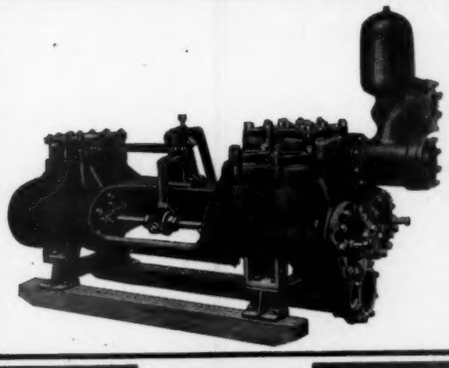

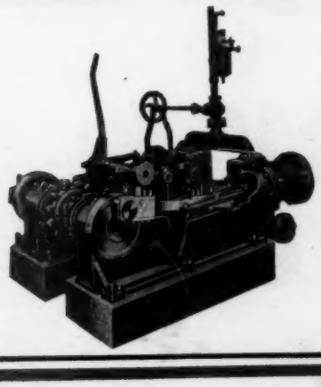

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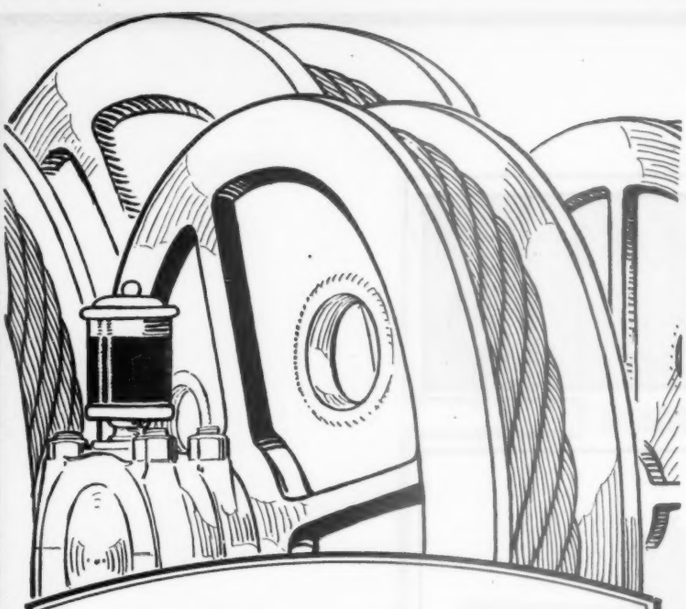

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G-111

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begins registering at 14.7 pounds above absolute zero.

It is not always profitable to close in the well for the time necessary for the total pressure to be registered and yet we must have a good value for it if we propose to use it in formulas. How shall we obtain the final pressure in cases where the time required is an important item in the economic handling of the well?

This is a problem in volumetric control; one to be given here briefly on account of its importance in our investigation. The casing acts as a rigid tank when the well is closed in and we may assume that the decline which would naturally take place were the well to continue producing, during the time required for the test, is zero.

We shall find, when we come to consider the filling of rigid gas tanks, that the pressure builds up on the path of the parbola when nature does the filling. Such a curve is shown in figure 235. The vertex is at O, abscissas represent units of pressure. O marks the final point of time and ordinates are units reached as the pressure accumulates. RO is the path of the accumulation, R being any reading on pressure and time after the well has been closed in. It need not be zero pressure.

The equation of the parbola with origin at O is;

$$y_1 = px_1^2$$

Translate the origin to the point Q;

$$y_1 = p(T - x_2)^2$$

Translate again to the point R;

$$P - p_2 = p(T - x_2)^2$$

Drop the subscripts as now being unnecessary:

$$P - y = p(T - x)^2$$

and we now have the equation of the parbola with any point R as the origin. There are three quantities unknown in the equation; P, p and T. The variables x and y can be obtained by readings on the gauge and on a watch. Three observations for these variables provide all that is necessary to solve for P, the final pressure, and T, the time such final pressure is due, in case it be of interest.

Example: Well closed in at 2:55 p. m.
At 3 p. m. pressure gauge 40 pounds
At 11 p. m. pressure gauge 220 pounds
At 11 a. m. pressure gauge 415 pounds

Calculate the intervals, taking the first readings as zero-zero:

| | | |
|---|---|---|
| First set; | $x=0$ | $y=0$ |
| Second set; | $x=8$ | $y=180$ |
| Third set; | $x=20$ | $y=375$ |

Now write the three equations:

$$P = pT^2$$
$$P - 180 = p(T-8)^2$$
$$P - 375 = p(T-20)^2$$

Solve these by the usual methods of algebra and obtain:

$$p = \frac{5}{18}$$
$$P = 40 \text{ hours}$$
$$P = 500 \text{ pounds}$$

At the time of the first reading the gauge showed 40 pounds pressure. This must be added to the computed value of P, giving 540 pounds, the final closed-in pressure which will be registered by the gauge 40 hours after the 3 p. m. reading, provided the well is closed in for that length of time. To this add the pressure of the atmosphere and obtain 554.7 pounds per square inch absolute. This is the total pressure within the reservoir at the time of the test.

**Vapors Cared For**

Vapors are properly cared for without further consideration. The gauge readings include all partial pressures.

The length of time between readings is a matter of judgment. The total time for the test should, in general, occupy a duration from one-fifth to one-fourth the value of T in order to obtain a sufficiently accurate result.

If there is liquid in the bottom of the hole and it does not change level during the test, its presence need only be taken into account by adding its weight to the value of P. When the level raises during the test, the changing weight of the column must be included in the separate readings on the pressure.

Where oil does not overflow the head of the casing, the final height acquired as it raises in the casing on shutdown may be computed by the same formula. The curve between the height of the liquid column and time is the same. The height merely represents weight on the orifice at the bottom of the hole. The quantities substituted into the equation may be expressed in feet if desired; the result will naturally be in the same unit.

So much for the pressure within the reservoir which may thus be obtained without closing in the well for an unprofitably long time; sufficiently long beyond T, in fact, so as to be certain the maximum point has been reached. How about the constant back pressure? This also must be expressed in pounds above absolute zero.

Gas wells usually have an erratic line pressure against which they must produce. The case merely calls for the recording pressure gauge. The planimeter is convenient for determining the average pressure for each chart and as many charts as desired may be combined by taking the arithmetic mean of the separate values determined by planimeter. These combined charts determine a definite period of time with its corresponding sweep segment on the decline curve. (Article 205).

The constant back pressure for an oil well is generally altered but once. This happens when the well is put on the pump; an act which takes the load represented by the column of liquid off the orifice at the bottom of the hole.

The true value for the potential pressure is obtained by subtracting the value of the constant back pressure from that of the final closed-in pressure. The atmospheric pressure subtracts out in case both pressures are measured by gauges which record pressures above atmospheric pressure. In case one or both gauges register pressures below atmospheric pressure, the proper value for potential pressure is obtained correctly and simply by expressing both pressures in absolute values.

**Which Control?**

**236.** If the primary and secondary functions of delivery differ widely for the various controls, as we have stated, it is important to know, in the beginning, the control to which our well belongs. Is it of hydraulic, volumetric or capillary control?

This is determined by a test at the well occupying a few hours time, or from the production curves of the well. Let us consider, for the present, only the latter method, and let us further confine ourselves to the consideration of the ideal well. In the latter we assume that all is perfect and no manipulation has taken place at our well or at any neighboring ones, nor have any new wells been brought in within the vicinity, the reservoirs of which "intercept" our reservoir.

Figure 236 illustrates curves for pressure and velocity. The scales are such for both functions that the initial points for them have the same location, such as at m. It is immaterial whether O marks the beginning of the actual life of the well or not; any point in time will suit as well as another.

If the pressure and velocity curves are straight horizontal lines, as shown by A, our well is of hydraulic control.

If there is pressure decline, it signifies either of the other controls and in both cases the pressure curve will be represented by the parabola, as shown by B. Now, if the velocity curve is above the pressure curve, as C, our well is of volumetric control. But if the velocity curve is below the pressure curve, as D, our well is of capillary control.

The next installment is the beginning of a series on hydraulic control reservoirs.

## MAP SHOWS OKLAHOMA WELLS

A map showing the oil, gas and drilling wells, and dry holes with depths in Oklahoma has been issued by the Kelly Map Co., of Tulsa, corrected to March 1. The map shows the location of all fields in the State and is large enough so that wells can be placed quite accurately within the section in which they were drilled.

# WATTS-MILLER

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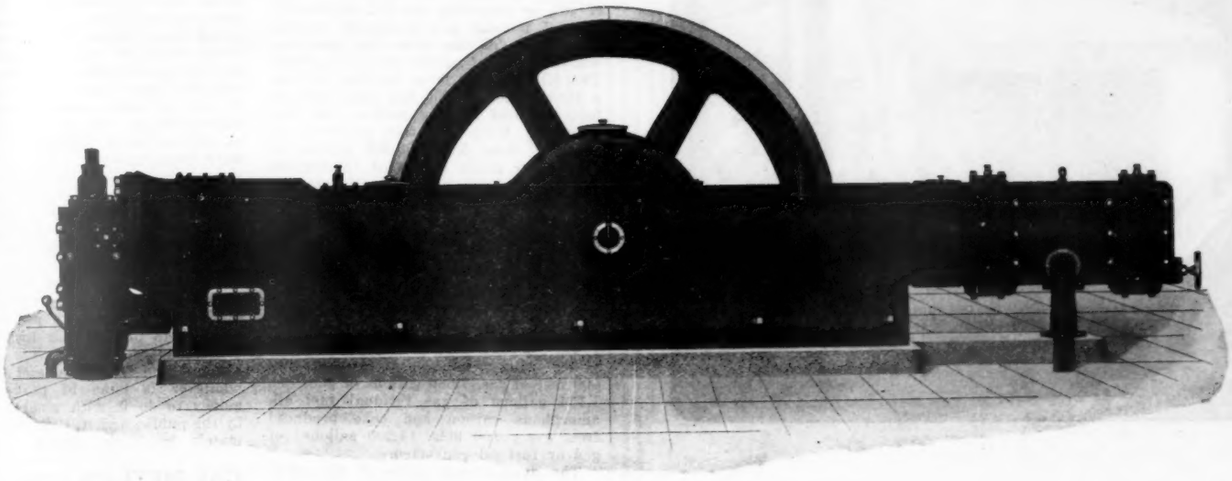

# One of the Most Remarkable Gas Engine Driven Compressors I've Ever Seen

So remarked an engineer at a plant where we have some of these units operating.

The engineer was sent by his company to make an inspection of the Watts-Miller compressor units at a booster plant and investigate operating conditions.

The machines at the time of his visit were carrying about 15% in excess of their rated capacity.

There is a reason for such operation.

The main frame is a one-piece casting—no joints to give trouble by operation—compare with other types.

Main Bearing is a full quarter box type; adjustments both vertically and horizontally by wedges, no liners used.

The rear end of cylinder completely water-jacketed, water cooling equal to full circumference of cylinder, saving main frame from expansion strains and fracture.

Cylinder head of special design, valve chambers allowed to expand independently also taking care of contraction and expansion.

Valves, both Inlet and Exhaust, of large diameter, giving full volume on inlet and positive in expelling exhaust gases.

All valve mechanism operates in oil bath automatically maintained.

Oiling system a complete automatic circulating and filtering, supply being maintained at constant pressure, controlled by an automatic electric cut out device that will cut out ignition to engine before oil supply is exhausted.

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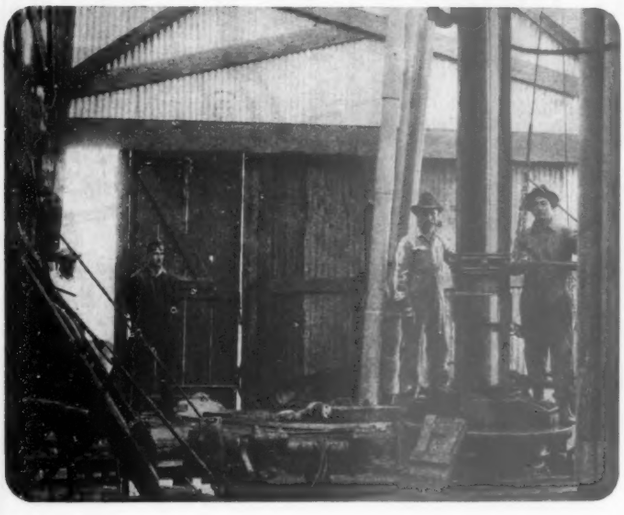

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## GAS OIL AND FUEL OIL USED AS FUEL

(Continued from Page 64)

and conveniences of natural gas may in the future have an adequate gas service, either of two steps may be taken. First, the total abandonment of natural gas and the expenditures of vast sums for the erection of modern manufactured gas plants, or the utilization of the available natural gas supply to be used as an enriching agent in furnishing a mixed gas."

The United States Geological Survey publication, Mineral Resources, 1921, Part 2, states the total amount of natural gas consumed in the United States during 1921 amounted to 662,062,000,000 cubic feet. Using 332,000,000 bbls. of gas and fuel oil produced in the United States in 1924 as a basis, from this fuel oil there could have been produced approximately the following products and amounts of same: 1,095,600,000,000 feet of gas, or deducting the 662,052,000,000 feet of natural gas consumed, leaving 443,548,000,000 feet more fuel gas than was consumed of natural gas during 1921. The oil-gas made from the fuel oil has a B.t.u. value of not less than 500 per foot produced by one method, not less than 900 B.t.u. per foot produced by another. Also 5,577,600,000 gallons of gasoline or motor spirits or 132,800,000 (42 gallon) bbls., and 3,764,880,000 gallons of fuel oil, amorphous carbon coke, or 89,639,999 (42 gallon) bbls., approximately 50 to 70 per cent of which might be utilized in the oil-gas and gasoline conversion processes for fuel leaving 30 to 50 per cent from which to produce an additional amount of fuel gas, of not less than 300 B.t.u. per foot.

The above estimated quantities obtained using as a basis of figuring 330,000 feet of gas, 1,680 gallons of gasoline, 1,134 gallons of gas residual fuel oil, amorphous carbon and coke produced from every 100 bbls. (4,200 gallons) of gas or fuel oil converted.

The approximate value of the products, taking, in fact, a fairly low average selling price for each would be as follows: 1,095,600,000,000 feet of gas at 70 cents per foot, $766,920,000; 5,577,600,000 gallons gasoline at 12 cents per gallon, $669,212,000; total, $1,336,132,000.

If then the gas and fuel oil utilized for conversion is valued as high as $2.25 per bbl. and 50 cents per bbl. added as cost of conversion, total $2.75 per bbl., for 332,000,000 we have a total of 1,003,000,000, an increase in value is shown of $333,132,000, or approximately $1 per bbl.

Figuring the investment for conversion units, including tankage and gas holders, as high as $3.50 per bbl. daily charging capacity the total investment required to convert the 332,000,000 bbls. of fuel oil would be approximately $324,000,000 so, therefore, there should be a profit of over 100 per cent on the investment.

If the selling price of the gas is figured at 50 cents per 1,000 feet and the gasoline at 10 cents per gallon the estimated profits would be reduced to $102,400,000, still showing a profit on the investment of 30 per cent, and besides this profit there has not been figured the profit to the refineries on the gas and fuel oil sold to the oil-gas conversion plants, and the total amount of gas oil, residual oil, amorphous carbon and coke produced from same other than converted in gas and gasoline has been figured as utilized as fuel in the conversion processes.

If the following industries were still permitted to use fuel oil in the amounts they were said to in 1924, as follows:

| | Barrels |
|---|---|
| Ocean transportation | 65,000,000 |
| Railroads | 55,000,000 |
| Petroleum refining | 41,000,000 |
| Gas manufacture | 31,000,000 |
| Total | 182,000,000 |

There would still remain 150,000,000 bbls. of fuel or over 45 per cent of the total amount consumed to be converted into gas, gasoline and fuel oil, which would practically have reduced the profits of the conversion operation one-half, but have still produced nearly 500,000,000,000 feet of gas and 2,788,800,000 gallons of gasoline or motor spirits or 66,400,000 (42 gallon) bbls., and 1,882,440,000 gallons of gas and fuel oil, amorphous carbon and coke, or 44,819,999 (42 gallon) bbls. approximately 50 to 70 per cent of which might be utilized in the conversion process for fuel, leaving 50 to 30 per cent from which to produce an additional amount of fuel gas.

Returning to the figures of 332,000,000 bbls. of gas and fuel oil consumed during the year 1924, and the production of same in California of 108,000,000 bbls., Arkansas 20,000,000 bbls., Texas 60,000,000 bbls., estimated imports from Mexico 80,000,000 bbls., total of 268,000,000 bbls., or within 54,000,000 bbls. of the total fuel oil consumed.

It has been estimated that the percentage yield of gasoline from the crude run to stills in California was 12 per cent, while figures published in "The Lamp" give 23.99 per cent average gasoline recovery in 1916-20, so, it appears, that much of the crude run to stills in California was of a heavy grade, as it was in Arkansas and Texas, and as was that imported from Mexico, and, therefore, this heavy crude oil was, practically, simply put through the stills to produce gas and fuel oil of the required specifications, and it may be fairly assumed that approximately 30 per cent of the crude oil run to stills or some 198,000,000 bbls. could have been conserved, with very little, if any, additional cost to the consumer of the products, provided the gas and fuel oil had been converted in gas, gasoline and fuel by so-called oil-gas processe, and still the 65,000,000 bbls. furnished for steamship use.

What will either our Government or the oil and gas industry or the public do in the coming years to prevent the further waste of fuel oils hitherto mostly consumed?

One thing is certain, and that is that whatever is done in that regard the money to do it with must be furnished by the public, and it, therefore, must ultimately decide the matter.

## GAS METER'S STORY RECORD OF STRUGGLE

(Continued from Page 64)

an Englishman, in 1815 made the world's first practical gas meter. It was a small machine which had an outer shell and an inner drum that revolved in water. The revolution of this drum tabulated on a registered dial attached to the meter, a given revolution being a certain part of a cubic foot of gas. This meter was further developed by John Malam in 1817 and still improved in 1820 by Samuel Crosby.

To these three men the gas business owes its gratitude because through their efforts the gas meter was developed, pulling the gas business out of a sure failure and enabling its great growth. The wet meter, as this was called, did very well for a while until winter came when untold grief began. In the winter the meters would freeze and burst and in the summer the evaporation of the water caused the meter to run very slowly or not to register the gas it should. Oil in those days was very scarce; about the only oil used was obtained from whales and animals, so they could not use oil in the meter, owing to its prohibitive price and its tendency to congeal at low temperatures. Water was their only resource, but as the gas company had to keep continually refilling meters on account of the water evaporating, the consumer letting the water out of the meter, and trouble with freezing in winter, it was necessary to further perfect the meter. John Malam then developed the dry gas meter in 1825.

The dry gas meter was constructed in a round tin case consisting of six leather diaphragms that would fill and empty thus causing a shaft which was connected to diaphragms to rotate and in turn this shaft would open and close the valves. The index mechanism was connected to this shaft. This type of meter was never generally used. In 1833 Bogardus invented a one diaphragm meter which was also imperfect.

### Meter in 1844

Finally in 1844, two Englishmen, Croll and Richards, invented a two diaphragm

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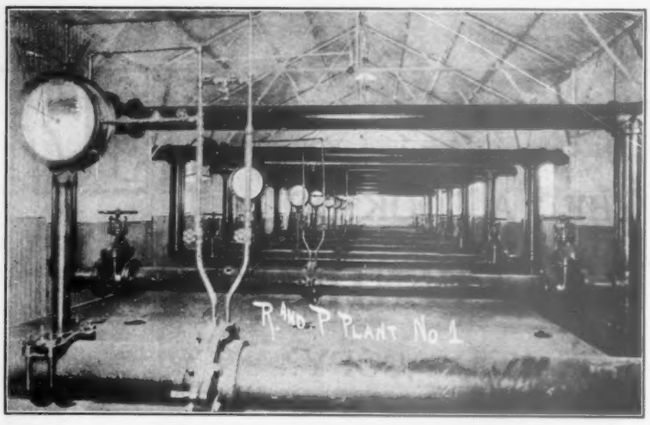


A Typical Foxboro Orifice Meter Installation

# They Tried 4 Kinds
## Then Standardized on Foxboro

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The large number of oil and gas companies that have settled down to Foxboro Orifice Meters after experimenting with all types of meters—not alone orifice meters—indicates that there is nothing unusual in the experience of the Louisville Gas & Electric Company.

It may, however, serve to point out to those who have not yet become familiar with Foxboro Orifice Meter performance that much time, trouble and expense may be saved by standardizing on Foxboro Meters at the outset.

Bulletin O 113-1 explains why, in detail. May we send you a copy?

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slide valve meter which was accurate in its measurement and regular in its action and the gas men of the world rejoiced.

The essential ideas of construction and principle of this meter have remained unchanged since its first invention of nearly 100 years ago. If you were to go to Washington, D. C., today and visit the Department of Standard, Weights and Measures which sets a national standard for all weights and measures in our country and ask them regarding the average glover slide valve two diaphragm gas meter, they would tell you there is no comparison of measurement of any other measure except the rule or yard stick, that is in regard to accuracy as the standard in meters.

They will tell you that even the most expensive time piece cannot compare with the meter for accuracy. Take the meter as a whole and place it in a cold damp cellar where various temperatures exist and pay no more attention to it for from 5 to probably 10 years, then take it out and test it and the average test will be within 2 to 5 per cent of being correct or else correct. Could you do this with the best of time pieces? I have myself witnessed tests on tin meters that were in service 30 years and found them to be 1 per cent of being correct.

## KENTUCKY-TENNESSEE

(Continued from Page 56)

ing to late reports looks good for 5 bbls. in a stray sand at approximately 636 feet, 136 feet below the top of the lime. This well flowed freely for a time, according to reports, and looked as if it would be a gusher well and excitement ran high, together with the usual speculation in leases. It looks as if some activity will be started since the bringing in of this well as two rigs are going up in territory adjacent to the well and the section in all probability will be given a thorough test. It is 10 miles southeast of Idamay.

**North Weir Field**

Garrison and Townsend scored the banner well of the past week in the North Weir Field of Lawrence and Johnston Counties, in No. 17 on the C. K. Dobyne farm, in Section No. 22. It started off at 25 bbls. from the Weir sand at an approximate depth of 780 feet. In the same section, Tom Hayes, finished No. 1 on the Wayne Moon for a 2-bbl. stripper from the Weir sand.

In District No. 33, the Indian-Texas Petroleum Co. made an 8-bbl. strike in its No. 1 on the Jesse Rose farm from the Weir sand.

The Union Gas & Oil Co. is rigging up to drill No. 31 P. P. Holbrook; No. 13 is being cleaned out; as is No. 4 John McKinzie, No. 7 C. K. Dobyne. No. 3 Jean Holbrook and No. 1 C. E. Frailey. Nos. 3 Caney Sparks, 8 C. K. Bobyne, 8 W. D. Lester, are drilling in lime. No. 1 Caney Sparks which has been producing naturally for the past month has been put pumping and is making around 7 bbls. from the Weir sand.

**South Weir Field**

In the South Weir Field of Johnson and Magoffin Counties, the Petroleum Exploration and the Wiser Oil Co.'s No. 5 W. S. Adams pumped 7 bbls. at 1,140 feet; No. 22 on the W. S. Adams No. 2 farm is still making 4 bbls. on the jack at 1,150 feet after being pumped steadily for the past year.

The wildcat test drilled on Trace Fork of Licking River in the southeast end of Magoffin County by the Pure Oil Co. completed dry and was abandoned.

Road conditions in this section are in bad condition and no new work of any consequence has been started. It is the opinion of many of the operators that several new pools will be opened here this spring and summer and they are now making arrangements for a vast amount of work.

**Other Completions**

In Floyd County, the Ohio Fuel Oil Co. got two dusters, one on the J. D. Turner farm at 1,900 feet and the other on the Millie Miller tract, on Left Beaver Creek, near Drift, at 3,145 feet.

Near Inex in Martin County, Leonard and Ralph finished a gasser on the Mayo properties.

In Wayne County, J. C. Brommer's No. 3 P. L. Harmon, district No. 13, pumped 2 bbls. from the Beaver sand.

## EASTERN FIELDS

(Continued from Page 52)

Horner is hauling rig material to a location on the Mary V. Horner farm. The Pittsburgh & West Virginia Gas Co. has soudded in on the J. R. Marsh farm in Clay district, Ritchie County. In Center district, Gilmer County, the Hope Natural Gas Co. started to drill on the John R. Jones farm. The same company is building a rig on the Monnie Ayers farm. In Sheridan district, Calhoun County, the Richter Oil Co. is fishing for tools on the E. F. Raybuck farm. In Sherman district, the same company is building a rig on the George W. Dye farm. Clem Morris & Co. are moving tools to a location on the Margaret Braken farm.

**Southwest Pennsylvania**

In Whitely Township, Greene County, the Peoples Natural Gas Co.'s test on the H. J. Zimmerman farm is a gasser in the Bayard sand. On the same farm, the same company is fishing for tools at No. 2. In Springhill Township, the same company is rigging up on the Caseman Brothers' farm. In the same township, the Dunbar Oil & Gas Co. is fishing at 1,600 feet on the James Murphy farm. In Richhill Township, the Headley Oil & Gas Co. is drilling a test on the Elizabeth Ray'e farm.

In Jackson Township, the Cameron-Cleveland Oil & Gas Co.'s test on the Robert Kinney farm is a gasser in the fifth sand. In Springhill Township, the Peoples Natural Gas Co. has a gasser in the Big Injun sand at a second test on the T. S. Sellers farm. One-half mile south of Sycamore, Morris Township, Greene County, the Manufacturers Light & Heat Co. has drilled a test on the Wolfe heirs' farm through the 50-foot sand good for 1,000,000 feet. In the same locality, the same company's No. 3 on the Dora Warner farm is dry in all sands and abandoned.

**Going on Down at Deep Test**

On Chestnut Ridge, near Ligonier, Westmoreland County, the Peoples Natural Gas Co. is still drilling at its second test on the Booth-Flinn property. It is drilling in a close, hard formation, resembling limestone and has reached a total depth of 7,520 feet. It is slow and tedious work but is expected to break the record for deep drilling, which is now held by the Hope Natural Gas Co.

## GAS LINE TO MEMPHIS

LITTLE ROCK, Ark., March 14.—The Arkansas Railroad Commission has granted a permit to H. A. Kehler of Los Angeles and California and Arkansas associates to install pipe lines in this State for the distribution of natural gas. The project is said to involve the expenditure of $10,000,000 and to call for trunk lines from northern Louisiana to Memphis, Tenn., and as far north in Arkansas as Paragould. Construction is to start within 60 days. Other Californians interested in the project are W. D. Fisk, W. C. Steffens, A. W. Crawford, Harold Burkhart and H. W. Burkhart, all said to be bankers of Los Angeles. J. C. Hawkins of El Dorado represents Arkansas money interested.

## NEW YORK OPERATORS

BOLIVAR, N. Y., March 14.—The well completed by Hardman, Thompson & Miller on the Hazzard farm, Pleasant Valley, and which started off at 250 bbls. besides filling the tubing, is doing two bbls. an hour. The company will soon start drilling another well on this lease.

Guy Fitch has sold his string of drilling tools to Bert Baldwin, who is moving the tools to the Colegrove Oil Co.'s lease in Coon Hollow, town of Genesee, where he has a contract to drill eight wells.

Contractor Earl Goodridge is drilling a well for Owen Crandall on his farm in Bolivar Township.

F. J. Wilson has completed a flood well for the Producers Gas Co. on the Beers farm, town of Bolivar.

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## CENTRAL WEST

(Continued from Page 56)

feet from the west line of the farm. New work would be started in the Payne Field in the western portion of Paulding County, but the mud is deep and material can not be moved.

In Spencer Township, Allen County, W. L. Parmenter's No. 8 well 1,200 feet from the south line and 900 feet from the east line of the Williams Severn farm, Section 24, pumped 15 bbls. the first 24 hours.

### Indiana Field

In the old Trenton Rock section of Indiana no completions were reported for the week, but three were brought in in the Princeton and Sullivan districts in the southwestern portion of the State. In Center Township, Gibson County, the Murphy Oil Co.'s No. 1 in the northeast corner of the Samuel Mussey farm, in the northeast quarter of the southwest quarter of Section 32, proved a duster at a depth of 1,628 feet.

In Monroe Township, Pike County, Tichenor and others' No. 1 in the northwest corner of the W. Owens farm, in the northeast quarter of Section 3, drilled in dry at a depth of 1,275 feet.

In Gill Township, Sullivan County, Fred Bays' No. 2 well, 560 feet from the north line and 75 feet from the west line of the James Springer farm, in the northeast quarter of the northeast quarter of Section 12, is a gas well with a volume of 30,000 feet at a depth of 418 feet.

L. C. Nicholson and others are reported to have started drilling their test well on the J. Harve Snyder farm, in Van Buren Township, Shelby County, and far in advance of any known gas or oil production. It is purely a wildcat, something like 35 miles southeast of Indianapolis.

### Illinois Field

The bringing in of two good producers by Hartman, Parrott, Young and others on the W. F. Courter tract in the northeast quarter of the southwest quarter of Section 23, Wabash Township, Wabash County, featured the past week in the Illinois Field. No. 2, in the northwest corner of the Courter, is estimated at 300 bbls. from 1,458 to 1,473 feet. When the drill entered the sand known as the Biehl, the hole filled readily and made several flows. A good showing was had in the Bridgeport sand, from which No. 1 on the northeast corner of the same farm got its production some months ago and is still producing 8 bbls. daily. This sand was passed up in No. 2; No. 3, 200 feet south of No. 1 and 200 feet from the east line of the farm, made 250 bbls. the first 10 hours from the Biehl sand. No. 3 also had 10 feet of Bridgeport sand and bailed oil freely through a hole full of water until the pipe was set. These two wells are 2 miles directly south of Allendale and approximately 5 miles southast of the Wright Pool, with some nice producing wells between.

One feature of the W. F. Courter and adjoining farms is the two known sands to draw from, the shallow Bridgeport at around 900 feet and the Biehl sand at between 1,400 and 1,500 feet and possibilities of finding the still deeper Jordan sand that has been found productive in the Wright Pool as well as the Biehl Pool, the original pool of Wabash County, and only about 2 miles northwest of Allendale.

These two wells coming in as they did are starting new work over the field and with a slight improvement in weather conditions, much new work will start up Whiteside and others are starting No. 3 C. E. Courter farm, Section 24 and an offset to No. 3 W. F. Courter. Wirebach & Ballard are starting No. 2 on the H. A. Price heirs' farm, and an offset to No. 2 to the west on the W. F. Courter farm. Levitt Gray is drilling two locations west and one location north of W. F. Courter No. 2, while Young and others are drilling across the old Mount Carmel road west on the Hutchinson farm, and Timberlake and others are drilling on the Rance Higgins farm in the northwest quarter of the northwest quarter, Section 23.

With the good wells on the Courter farms, Winters, Armstrong and Adams farms, it looks as though the pool will develop into one of the important ones of the county. Indications point to an active summer of drilling, not alone around the Winters Pool, but in all parts of Wabash County. Some leases bring as high as $25 per acre and numerous tracts are changing hands. There is more interest noticeable in Wabash County at this time than for any period since the excitement was brought in the Della Wright Pool several miles away. The county has only been scratched and a dry hole only means the spot where it is drilled as a well may be found a few feet away. Large areas of territory in Wabash and Friendsville townships of this county have been condemned by dry holes, but the operators familiar with the field, do not consider a dry hole a bad omen in the drilling of other close-by leases.

In Wabash Township, Weidner & Smith are drilling No. 3 on the Holson & Dorney, in Section 18. Preparations are under way for the drilling of a very important well on the John Geiger farm, Section 8, Mount Carmel Township, Wabash County and about a mile north of the town of Mount Carmel.

Another wildcat of interest is that to be drilled by George Porter on the west side of the Bonapas River, north of Grayville, in Edwards County, about 15 miles west and about the same distance south of Allendale. The rig is now being put upon the location.

In Centralia Township, Marion County, Bayes and others abandoned No. 1 well in the northeast corner of the Miller-Mackey land, Section 30, as dry.

In Casey Township, Clark County, the Gillette Oil Corp.'s No. 3 in the southeast corner of the C. W. Slater farm, Section 255, pumped 50 bbls. from the stray sand at 1,429 feet.

### Central Ohio

The gas companies are showing less development work than any period during the past several months. This is an annual happening at this season and it will be rather dull until the latter part of May or the forepart of June when the drill will be rushed again in the hunt for additional volume to supply patrons on the gas lines for next winter. New producing acreas are being added to the older production section and there are hopes of increasing the volume of gas.

During the week a total of 9 completions were reported of which 1 proved an oil well with a production of 15 bbls. from the deep Clinton sand, 4 dry holes and 4 gas wells. In new work starting, locations were made for 2 new wells and 6 wells started drilling.

The Wehrle interests have made a location for a wildcat test on the Maggie Oatman farm, in Eden Township, Licking County, and should it prove a commercial producer of either oil or gas, will add a large scope of virgin territory.

In Orange Township, Ashland County, the Logan Gas Co. has started to drill No. 1 on the J. R. McConnell 87-acre farm, Section 4. In Columbia Township, Lorain County, the East Ohio Gas Co. started drilling a second test on the G. and J. Harold 70 acres, Lot 28.

The Ohio Oil Co. is drilling No. 1 on Wooster Township, Wayne County. In Milton Township, same county, Charles Daughterty's test on the C. Krouse 70 acres, Section 19, came in with a volume of 300,000 feet of gas in the Clinton sand and blew itself out over night and has been abandoned.

In Cannan Township, Wayne County, the Empire Gas & Fuel Co. struck a dry hole at No. 1 on the J. Leaman 143 acres, Section 24. Brinkerhoff and others' No. 4 on the H. H. Armstrong farm, Section 30, produced 15 bbls. of oil from the Clinton formation. The East Ohio Gas Co.'s second well on the C. and E. Sells farm, Section 24, is a fairly good gas well. In the same township, the well of William Denny and others on the H. Rock farm, Section 24, that showed a volume of 5,000,000 feet of gas in the Newburg sand, became exhausted in a very short time and is being drilled down to the Clinton.

The Empire Gas & Fuel Co. made a location for No. 4 on the southeast corner of the W. S. Davenport 140 acres, Lot 5

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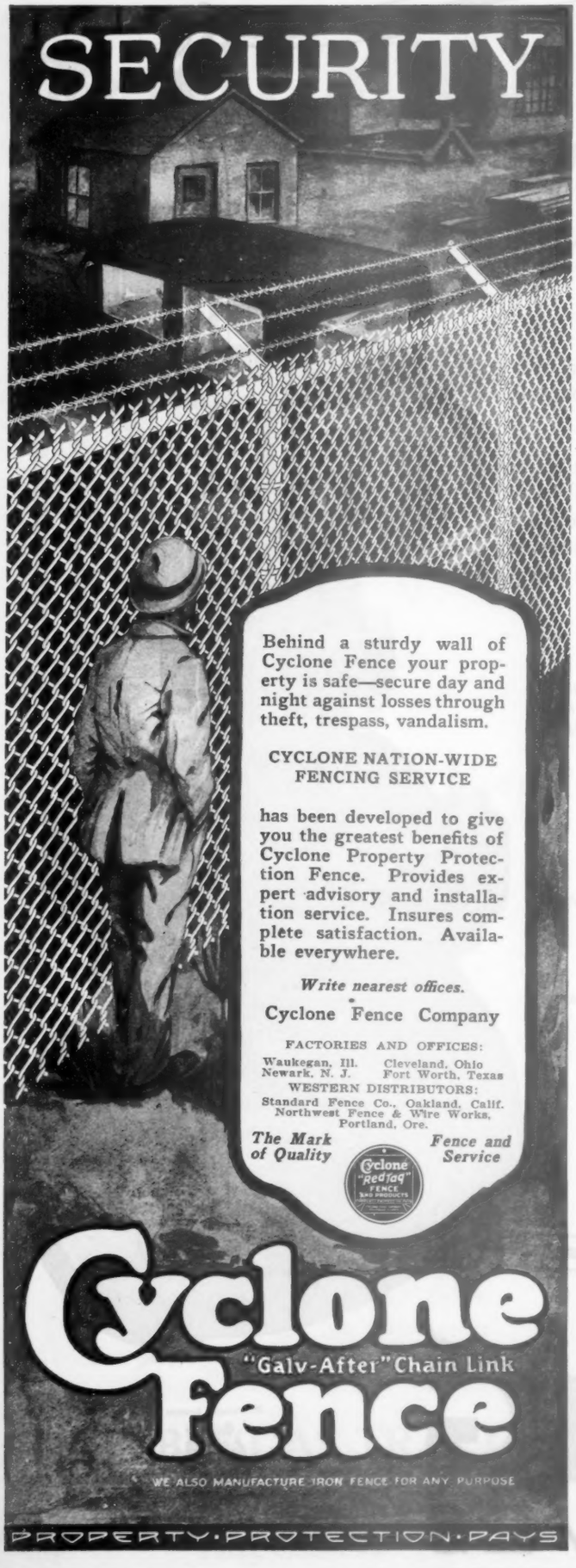
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Monroe Township, Holmes County. In Prairie Township, same county, the East Ohio Gas Co.'s No. 1 on the Homer A. Bell farm, Lot 17, is an exceptionally good gas well. In Richland Township, same county, the same company is drilling No. 1 on the W. M. Manchester 84 acres, Lot 3. In Kilbuck Township, same county, the Ohio Oil Co. made a location for a test well in the northwest corner of the Albert Schoonover 40 acres, Lot 19.

In Rome Township, Athens County, Stephens & Yowman's No. 4 on the G. S. Parker 250 acres, Section 25, is reported a duster.

In Richfield Township, Summitt County, the East Ohio Gas Co.'s wildcat on the E. J. Cornell farm, Section 12, is a dry hole.

In Sutton Township Meigs County, the Ohio Fuel Supply Co. is drilling No. 1 on the E. Williams farm, Section 24.

In New London Township, Huron County, the Logan Gas Co. is drilling No. 1 on the Henry H. Thudum 45 acres, Lot 2. This well being north and west of the gas area will be watched with much interest.

### Late Completions

Another excellent producer has been added to the Hardy Township, Holmes County Field of central Ohio, in the East Ohio Gas Co.'s No. 1 on the S. H. Sterling farm, Section 36, the well showing 45 bbls. from the deep Clinton lime.

In Cannan Township, Wayne County, the Ohio Fuel Gas Co.'s second test on the S. L. Whonsettler farm, Section 20, produced 10 bbls. of oil from the Clinton sand and about 300,000 feet of gas. In this township, the Empire Gas & Fuel Co. had better success with its second test on the J. Leaman 143 acres, Section 24, striking a good gas well. No. 1 was a duster. Charles Hower and others found a nice gas well in a second test on the R. C. Cockrell farm, Section 5; the Central Oil & Gas Co. got a duster on the J. Gingery farm, Section 23, 300 feet from the south line and 950 feet from the east line of the farm at 3,200 feet.

In Hanover Township, Ashland County, the Ohio Fuel Gas Co. drilled in an average gas well at a test on the Casper Paul farm, Section 26. In Grafton Township, Lorain County, the Logan Gas Co. drilled a light gas well in No. 2 Fred Klinech farm, Lot 55.

In Rome Township, Athens County, Stephens & Yowman's No. 4 on the G. B. Parker 250 acres, Section 2, was a dry hole. In Richfield Township, Summitt County, the East Ohio Gas Co. struck a duster at a test on the E. J. Cornell farm, Section 12.

### Offside Development

A remarkable find is reported from Washington Township, Hocking County, where the Carter Oil Co.'s test on the W. Huggins farm, Section 15, after given a shot, produced 160 bbls. the first 24 hours. Same company is starting a test in the southeast corner of the W. H. Mowery 164 acres, better known as the Stella M. Miesse farm, in Section 15, same township. The Gordon Oil Co. is getting ready to start a test on the northwest corner of the W. L. Wagner 40 acres, known as the M. J. Foster farm, in the southwest quarter of Section 24, same township.

The Preston Oil Co. is drilling No. 15 on the J. M. and E. M. Hamilton farm, Section 21, Starr Township, Hocking County, and has a rig up for No. 23 on the R. S. Longstretch farm, Section 24, same township. The Midwest Oil Co. is due to complete No. 1 on the Susan Geiger farm, Section 32, Gore Township, same county.

## TANK FARM AT VENTURA

LOS ANGELES, Cal., March 14.—The Shell Co. has moved 30 families of oil workers from its Signal Hill field division to the Ventura Avenue Field, there to carry out an extended drilling campaign and to build a large tank farm to take care of Ventura County production. Construction of an 80,000-bbl. tank is under way and plans are being drawn for a large underground concrete reservoir.

## Col. R. W. Stewart Inspecting Doheny's Properties Abroad

Col. R. W. Stewart, chairman of the board of directors of the Standard Oil Co. of Indiana, together with his technical advisers, has been examining oil fields and oil properties in Mexico and South America in an effort to secure information upon which the company may determine whether it shall accept a proposal that it make a substantial investment with others in certain important companies controlling oil production in those territories. Negotiations with respect to those matters are now under way.

NEW YORK, March 14.—Edward L. Doheny is reported carrying on negotiations for the sale of all the Mexican oil properties controlled by his company, to the Standard Oil Co. of Indiana, Blair & Co., Inc., local bankers, and certain British interests. This fact, the New York Times says, was confirmed by Mr. Doheny's secretary.

The deal, if consummated, will involve nearly $125,000,000 it is estimated, basing the figures upon the capital and bonded indebtedness of the Mexican Petroleum Co. and its subsidiary organizations and the current market price for the securities of these organizations. It is not considered likely this amount of money will actually change hands, as the buyers are expected merely to assume the bonded indebtedness and preferred stock of the Mexican Petroleum Co.

The contract has not yet been signed, the newspaper says, but Col. Robert W. Stewart, chairman of the board of the Standard Oil Co. of Indiana, is now believed to be making an inspection tour of the Mexican property.

In event the sale is consummated, the New York Times says, it probably will result in a readjustment of affairs within the Pan-American Petroleum Co. by segregating the Mexican from the American properties, with the company confining its activities to the development of the petroleum industry in the United States, especially on the Pacific Coast.

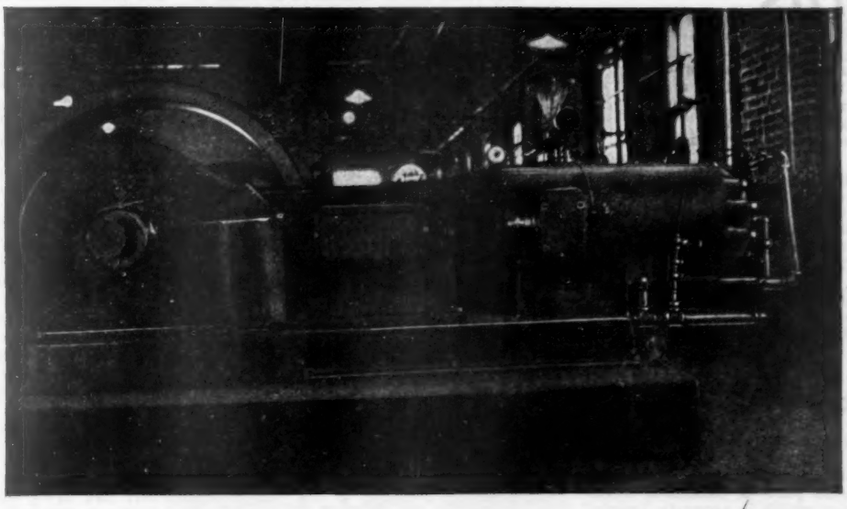
It is understood a new company would be organized to operate the American properties of the Pan-American Petroleum and Transport Co. This arrangement, it is said, would permit stockholders to exchange the present "A" and "B" shares for stock in the new company.

## NEW USE FOR FUEL OIL?

A new use for fuel oil, or rather a new method of using it, is briefly described in London newspapers. The oil is mixed with air and then injected into a steeel vessel contining water where the mixture is ignited—i.e., in the midst of the water—an unusually hot flame resulting. The temperature of the flame is stated to be nearly 4,000 degrees Fahrenheit. By the repetition of this process steam is obtained, which passes into a reservoir for the supply of a steam engine. Several things are claimed for the invention. The boiler, or vessel in which the oil and air mixture is ignited, is stated to cost half as much as an ordinary boiler of similar capacity. It is claimed that for the production of a given quantity of steam by the new method half the usual quantity of fuel suffices. Further, it is said the heat produced by oil fuel burned under these conditions is in excess of that indicated by its calorific capacity. It may be, says the London Oil News, that calorific capacity is reckoned along lines which are not quite accurate; or it may be that, surrounded by liquid $H_2O$, the fuel mixture behaves in an unusual way, but meanwhile, as practical beings, we shall all desire to know a great deal more about it.

## UNION OIL SPECIAL MEETING

Union Oil Co. of California has called a special stockholders meeting for April 2 to vote on increasing bonded indebtedness from $45,000,000 to $95,000,000.



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"A recent inspection of all the working parts of the engines revealed almost imperceptible wear, and this was especially noted where wear would be most likely to appear. It was very gratifying to find these engines in such splendid shape after over two years use, and while we are users of other makes of engines, we are pleased to state that future installations of this kind will be Giants. . . ."

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THIS Giant 130 H.P. Engine, in an Oklahoma refining plant (name upon request), ran continuously for six months—day and night, week-day and Sunday—finally being shut down to make a new water connection on equipment which the engine was operating.

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There's nothing tricky about the Davis Automatic Casing Head Gas Regulator. It is designed to control the vacuum on oil and gas wells, receivers and tanks in the manufacture of casing head gasoline. It has only one internal moveable part—a balanced, bevel-seated disc with graduated port openings which is securely coupled to a flexible diaphragm. No springs or toggles—nothing to go wrong—just put it to work and forget about it. The counterweight holds it open, the vacuum closes it, and the oil-filled dash pot keeps it from hammering. What could be simpler?

Opposite—The Davis Automatic Casing Head Gas Regulator. Below — The Davis Automatic Low Pressure Gas Regulator.

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The Davis Automatic Low Pressure Gas Regulator is designed to stay put at any pressure from five pounds to an ounce and stay there regardless of changes in the high pressure or the demand. It closes *tight* and when closed is unaffected by internal pressure changes. No outside piping is necessary when installing.

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# VALUING OIL PRODUCING PROPERTY FOR INCOME TAXATION PURPOSES

By Samuel J. Caudill*

Until the last few years, the oil business could not be considered as being on a sound basis in the matter of values. The methods of arriving at values were unscientific and not based on a careful consideration of the available facts. In the majority of cases a "rule-of-thumb" method was used which was supposed to apply indiscriminately to all classes of producing properties.

The valuation of oil and gas properties may be made for various purposes, such as the basis for exchange, consolidation, production, financing, tax purposes, etc. Although engineers have different methods for ascertaining each of the above values, the main factors should be the same and there should be very little difference in the final results. Before the development of scientific methods of valuation for income tax purposes and even for some time thereafter, the usual method was on the basis of a certain sum per barrel of daily net production—and frequently on random estimates by experienced operators. The fallacy of following such a procedure was that there was too much variation in results. An experienced operator would always want to know the purpose for which he valued a property and therefore could allow the element of prejudice to enter. The "barrel-per-day" method was not reliable in that it must apply to settled production to be of general use and did not take into consideration future developments, production and maintenance expense and other important factors.

### Present Value Method

Valuations today are almost universally made by the "present value" method. The factors involved are as follows:

1. That from the property there will ultimately be produced a definite quantity of oil.
2. That the production of that oil will require the expenditure of a certain sum of money.
3. That a certain amount will be received from the oil sales.
4. That the total net receipts will equal the total gross receipts minus the development and production expense.
5. That the present value of the net receipts must be such an amount that when invested by a purchaser it will be returned with a rate of interest commensurate with the risk involved.

The passage of the Federal income and excess profits tax laws made necessary the standardization of valuations in order that the administration of the law would be fair to the taxpayer and to the Federal Government alike.

One of the most important factors in evaluating an oil property is, the determination of the recoverable oil. A property condemned by dry holes has no value, and other things being equal, a tract that will produce 100,000 bbls. is worth more than one that will yield 90,000 bbls. Hence, the value increases as the recoverable oil increases.

### Methods of Appraisal

The value of the petroleum engineer's services depends upon his ability to estimate correctly the productive value. If he recommends the purchase of a lease at a price that proves to be excessive, the operator has too great an investment in each barrel of recoverable oil, and the property may not be operated at a profit.

In the appraising of properties for taxation purposes, probably most taxpayers desire the highest value possible, whereas the Government seeks a reasonable valuation. Under the income tax law the value is only material for the purpose of certain deductions, many of which are tax free, and as they represent a certain percentage of the value, it is evident the higher the value the greater reductions, and the lower the taxable income. Under an ad valorem tax, the tax is a percentage of the value and, therefore, the higher the value the higher the tax. This is just the reverse of conditions as set forth in the income tax law. The engineer must recognize both sides of the problem, and place a value fair to both the Government and the taxpayer. If his work has been properly done, he will not suffer embarrassment if the present law should be changed and the tax figured on an ad valorem basis.

From the passage of the Sixteenth Amendment to the Constitution in 1913, a grave problem has confronted the oil producer in the matter of income taxes. The problems involved are the effect of valuations, depletion, depreciation, invested capital and profit and loss arising from the sale of capital assets upon income and excess profits taxes under the various income tax laws.

### Deductions Under Various Acts

The Act of 1913 limited the depletion allowances for 1913, 1914 and 1915 to 5 per cent of the gross value of the product. The restriction was removed in 1916 but due to the low tax rate there was little difference in taxes. The increase in tax rate was balanced by the additional allowance in depletion. When the United States entered the war it became necessary to increase tax rates. New features were introduced into the 1917 tax law. The original acts for 1916 and 1917 allowed depletion on the value as of March 1, 1913, to lessors and operating owners. The lessee could only secure depletion on cost as of date of acquisition. Subsequent regulations removed this restriction. Under the 1918 law there were revisions in the tax rates and new features added. The hazardous nature of the oil industry was recognized by the incorporation of the discovery clauses with reference to valuations. In the 1921 law certain limitations were imposed in which the excess depletion on appreciation on a property over its net income could not be used on other leases where the depletion deduction was less than the net income. Various regulations have been issued which have elaborated and very much complicated the interpretation of the law.

Different valuations under tax laws depend largely upon the legal status of the properties. With restrictions valuations are allowed upon the following dates:

1. March 1, 1913.
2. January 1, 1914.
3. At date of organization of a corporation.
4. At date property was received as a gift or through inheritance.
5. At date of liquidation of a corporation.
6. Within 30 days of discovery.
7. At date of sale.

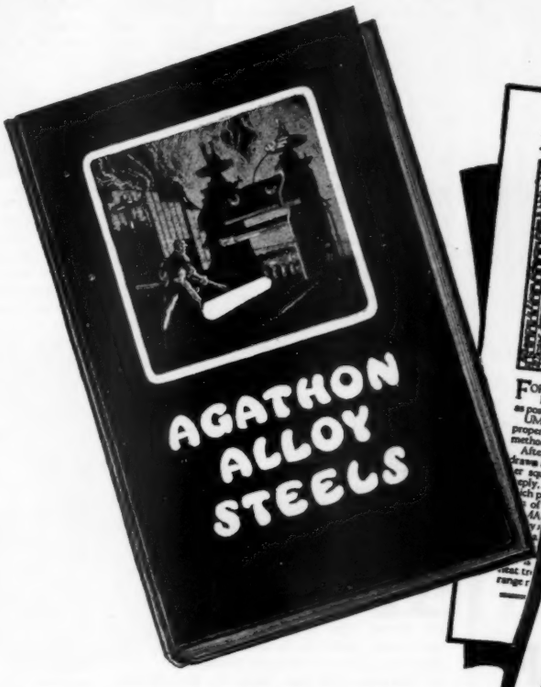
### Valuation as of March 1, 1913

Since the first income tax law became effective, March 1, 1913, it is obvious the taxpayer was entitled to a value at this time in order to absorb the increase in value over cost prior to that date. Profits from operations and sales of assets thereafter were taxable. If properties were acquired prior to March 1, 1913, the value as of that date may be used as a basis in determining depletion and depreciation deductions. During later years when taxes were increased this provision carried great weight in reducing tax liability.

In determining profit or loss from the sale of oil properties acquired prior to March 1, 1913, it is necessary the property be valued at that date and if the profit or loss be loss by that method, then it is to be used. Another factor to be recognized in sales of this kind is the depletion and depreciation on this value. Depletion and depreciation also affect operating gains or losses for taxable purposes.

Valuations of oil properties as of January 1, 1914, may be used in the determination of invested capital for individuals under proper conditions, and also for corporations where the assets were acquired with stock, prior to January 1, 1914. In this case the value used could not exceed the par value of the stock

*Delivered at the University of Oklahoma, before the class in Oil and Gas Production.



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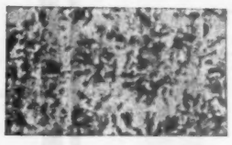
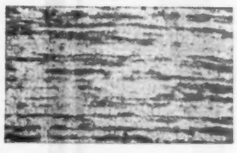
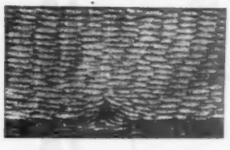


Photomicrograph *of cast iron, much enlarged showing granular structure.*



*Photomicrograph of wrought iron, much enlarged, showing fibrous structure.*



*A piece of sheet steel, much enlarged, showing surface and sectional structure with a typical pit.*

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In place of the interlocked grains or crystals of cast iron, wrought iron and steel are of a fibrous and, in thinly rolled steel, of a laminated structure, with distinct leaves overlapping each other. As corrosion takes place, these leaves or fibres scale off, constantly presenting a fresh surface to the corrosive agent.

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issued therefor. Such valuations may be used only for the year 1917 for invested capital purposes.

**At Date of Organization**

In the formation of a corporation, properties owned by a group of individuals, partnership or corporation, may be turned over to a corporation in exchange for stock. The stockholders are the same persons as the individuals previously owning the properties. Since the law recognizes a corporation as a legal and distinct entity the transfer of the property from the individuals to the corporation is treated as a sale and subject to taxation. The measure of profit or loss by the sale is dependent upon the value of the property paid in in exchange for stock. The value must be used when determining the profit or loss accruing to the individuals from the transactions, when computing depletion, depreciation, or invested capital of the corporation, and when determning subsequent sale of the assets. In case of oil properties acquired by a corporation the value may be used for all of these purposes. There is one exception to such valuation. Under the income tax law no increase in the value of assets is allowed for invested capital purposes where reorganizations occur after March 3, 1917, provided 50 per cent or more of the control or ownership remains in the same hands or persons. This exception does not affect profit or loss to individuals or depletion and depreciation to the corporation.

Under the 1921 law no profit or loss arises from the transfer of an asset from an individual or group of individuals to a corporation, or from one corporation to another when the control remains practically in the same hands. If the corporation then sells the property, the profits from the sale will be computed from the cost to the previous owners rather than the value to the corporation itself.

During the years of high excess profits taxes and surtaxes, many corporations and individuals not conversant with the law and regulations became involved in vexing problems due to the widely fluctuating value of oil properties.

**At Date of Liquidation**

In the liquidation of a corporation after all creditors are satisfied, the stock holders receive the assets in exchange for their stock. This liquidating dividend may be cash or assets in kind. The income tax law recognizes the surrender of stock as a sale of it to the corporation for its assets. The sale price is the value of the assets if received in kind. Therefore when properties are received by the stockholders the value at that date must be determined to arrive at the profit or loss from the sale of the stock and the same value must be used to compute future depletion and depreciations of profit and loss on any subsequent sale by the individual owners.

**Inheritance or Gift**

Under the Federal income tax laws, gifts received through inheritance or in any other manner are not taxable, but the income therefrom is subject to taxation. Such properties should be valued at date of gift and in case of oil properties, depletion should be determined on the basis of this value as well as profit or loss in a subsequent sale. Under the Act of 1921 and 1924, this procedure is prohibited in case of gifts and the cost or value to the donor must be used, in computing allowable deductions for taxation purposes.

**Discovery Valuations**

The largest single item in the valuations of oil properties, under the income tax laws, is the completion of discovery wells. This procedure in income tax valuation for oil properties was first recognized in the Revenue Act of 1918. The cooperation of practical oil men with the geologist and the application of geological knowledge has greatly lessened the risks of the oil industry. Within the last several years deeper drilling has been necessary to locate an adequate supply of production. At best, drilling for oil in prospective areas as well as in proven territory is, and always will be, a hazardous undertaking and the completion of a drill hole in a producing area is the final evidence of the risks involved. The large income from the discovery of a new field is realized in so short a time that exorbitant taxes resulted in profitable years. Naturally this had a tendency to discourage the oil operator from taking unusual risks. The pressing needs during the war made it apparent that new producing fields must be exploited, and in 1917 and 1918 Congress introduced the discovery clauses into the Federal income tax law effective 1918, to encourage drilling in new and undeveloped areas and protect the discoverer of new propduction. Under the Acts of 1918, 1921 and 1924, depletion deductions may be based upon the value of the oil reserves within 30 days of discovery, provided (1) That the value of the property is materially disproportionate to cost; (2) That the property was not acquired as the result of a proven tract. It is obvious that this clause does not apply to wells discovered prior to March 1, 1913, as property may be valued as of that date.

In a given district, the first completed well, whose value is disproportionate to cost is entitled to a valuation on account of discovery, the well proving a square area embracing 160 acres of which it is the center. The limiting boundaries are north-south and east-west lines. Other wells completed therein in the same sand or zone are not discovery wells and do not extend the proven area. The first well drilled beyond the proven zone whose value is materially in excess of cost is a discovery well.

**Amount of Depletion**

The discovery value of a property will be deemed to have become disproportionate to the cost when the ultimate production of such property affords a reasonable expectation of returning a net sum greatly in excess of the cost of the property.

A proven area may be a part or the whole of a proven tract, but in no case shall embrace an area greater than 160 acres around the well.

That part of a taxpayers' lease that lies within an area proven either by himself or by another is considered a proven zone, and the completion of a discovery well thereon will not entitle such taxpayer to set up a discovery valuation, unless the property was acquired before it became proven.

The Act of 1921 limits the amount of depletion which may be deducted on account of depletion on appreciation due to discovery. The depletion allowance based on discovery value shall not exceed the net income, computed without allowance for depletion, from the property upon which discovery is made.

The Act of 1924 further limits the discovery depletion to only 50 per cent of the net income before deducting such depletion allowance.

**Date of Sale**

Discovery valuations not only protect the taxpayer by giving additional relief through depletion but further aids in the sales of properties. Where a taxpayer proves that the value of his property is primarily due to exploration and development work done by him, certain limitations are placed upon the tax arising from the sale of such property. Under the 1918 law and the 1921 law, the surtax assessed individuals and the war and excess profits taxes assessed corporations, from the sale of such properties, shall not exceed 20 per cent of the selling price. For the year 1922 and thereafter, the surtax attributable to such sales shall not exceed 16 per cent of the selling price.

**Present Value Method**

Since the present value method of appraising oil properties is commonly accepted and approved by the income tax unit, and that other valuations are given little weight, the present value method will be discussed.

The fundamental facts to be considered are:

1. The ultimate recoverable oil.
2. Development, operating and overhead expense.
3. Equipment expense.
4. Discount factor.

**Ultimate Recoverable Oil**

During the latter part of 1918 the Internal Revenue Bureau collected production data from all the fields of the

# Crowned King of Temper Screws

*by the drillers of every field*

# Burns Tubular Temper Screw

*Sold by all supply stores*

**Manufactured by**

## BURNS TOOL CO.

**OKMULGEE, . . . . . OKLAHOMA**

*"Drill With Manila"*

# Wall Manila Drilling Cables

**Sold by**

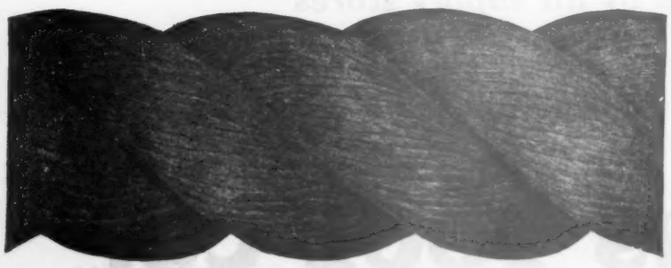
**American Tool & Supply Co.—Oklahoma**
**Atlas Supply Co.—Oklahoma and Texas**
**The Bovaird Supply Company—Oklahoma and Kansas**
**Bovaird & Company—Bradford, Pa.**
**The Bridgeport Machine Company—Oklahoma, Kansas and Texas**
**Decker Tool & Supply Company—Texas**
**The Drillers Supply Company—Kansas**
**Hinderliter Tool Company—Oklahoma**
**Murray Tool & Supply Company—Oklahoma**
**New Martinsville Supply Company—New Martinsville, W. Va.**
**Republic Supply Company—Oklahoma**
**Republic Supply Company—Oklahoma, Texas, Louisiana and Arkansas**
**Rope & Cordage Company—Parkersburg, W. Va.**
**The Staves Supply Company—Kansas**
**Wagner Supply Company—Texas**
**Western Supply Company—Oklahoma**
**Western Drilling Tool & Supply Company—Kansas**
**Williamsport Wire Rope Company—Oklahoma, Kansas, Arkansas and Wyoming**

**WALL ROPE WORKS, INC.**

Established 1830
**General Offices: 48 South Street, New York City**
**Factory: Beverly, New Jersey**
**Oil Field Branch: Bartlesville, Okla.**
**Stocks throughout the oil fields.**

# Pure Manila Bull Ropes

***(Walk Laid)***



***Worthy of Trust***

United States for the purpose of making a study of depletion. Records of individual properties were collected and tabulated, resulting in the construction of generalized decline and appraisal curves for the various fields. The curves seemed to demonstrate that it was possible to estimate the recoverable oil from a property with a fair degree of accuracy. Subsequent work by petroleum engineers, however, has demonstrated that such curves cannot be applied indiscriminately to specific properties. Most of the curves are based on a number of sands that vary widely in productivity and extent of life, and therefore are rendered useless in computing reserves for a given property.

The production curve method is conceded to afford the best means of estimating recoverable oil. The work, however, must be done with great care and judgment if satisfactory results are to be obtained. It is not difficult to plot the decline of a well and compute its ultimate production when all the data are complete. Unfortunately, however, production records covering long intervals are seldom available and only a short segment of the curve can be constructed. It is necessary, therefore, to project the curve beyond the period of actual production, to ascertain the expectancy and probable life of the property. After the expectancy of the producing wells has been determined, many other factors have to be considered in computing the recoverable oil from the undrilled area. This work requires a knowledge of the structural geology and the relation of production thereto, the initial pressure of the reservoir, the location of the top of the basal water and the rapidity with which the oil and gas is being exhausted by the completion of other wells in the same pool. Such data cannot always be acquired on the area under investigation and it is necessary to make comparisons with other pools, where the conditions are most similar.

### Expenses

Development expenses, that is cost of drilling and other items in connection therewith, have a great bearing on the value of oil properties. Usually costs vary in proportion to transportation, weather and climatic conditions, depth to the producing horizon, difficulty in drilling, etc.

Operating expenses include actual labor, maintenance, insurance, losses, taxes, geological and engineering services, salaries of officers and superintendence, and general office overhead. Operating, maintenance and overhead costs should be made the subject of exhaustive study in order that excessive costs may be avoided. Many properties are operated very economically but due to excessive overhead costs, a part or all of the potential profits are absorbed.

Equipment costs are comparable to drilling and operating costs and should be considered in connection with drilling costs. Efficiency in operation is necessary as it is a determining factor in salvage when properties are abandoned.

### Discount and Risk

As the income from an oil property is to be received over a period of years, the deferred receipts must be discounted to measure the present worth at the date of valuation. Mining engineers have generally accepted the system devised by Hoskold, who in 1877 published his theories of investment returns and with them his tables for figuring present worth. The tables used for valuing oil properties are generally based on Hoskold's formula, with modifications to fit particular cases. Many engineers use Hoskold's tables without apparently realizing how to adapt them equitably to oil properties. The tables were made on the assumption of annual increment of earnings where oil properties have a decreasing rate of income.

Hazard or risk is another factor that has an important bearing on any valuation. Many and varied opinions exist as to the proper place to apply a hazard factor. There is a hazard in connection with the estimate of oil reserve, cost of future wells, operating costs and future price of oil. This can either be applied in each particular phase of valuation or it can be applied collectively and be known as a buyer's hazard which would be combining the elements of risk or hazard.

### Depletion

The amount of depletion to be written off against operations should be handled through the "lease operating" statement, rather that the general "profit-and-loss" statement, in as much as the principle to be followed makes it necessary to determine the depletion allowance for each lease separately. The amounts so determined are credited to "reserves" which function as "valuation" accounts to the assets, reflecting the leasehold values.

If the taxpayer claims enhanced valuation, due to ownership of oil properties prior to March 1, 1913, or on account of discoveries of oil or gas on leases hitherto unproductive, after that date, the regulations provide that such appreciated values must be reflected in the books of the taxpayer. The exact method to be employed in effecting a compliance with this regulation is a moot question. A simple method that is frequently used is here outlined: The appreciated value may be charged to a distinct asset account appropriately named and the credit carried in an account under "Special surplus appreciation."

In the calculation of depletion of properties having an appreciated value, it is necessary to determine the amount of depletion applicable to cost and the amount applicable to appreciated value. The amount based on cost is clearly a direct deduction from operations. The amount on appreciation, although allowed as a deduction by the Government in computing net income, should receive a different treatment. One method, that seems to be founded on correct accounting procedure, is to charge the so-called depletion of appreciated value to the "Special surplus" account which was credited to reflect the liability offsetting the increase in assets through appreciation. This treatment operates as a transfer to the "Earned surplus" account of the depletion of appreciated values, which is referred to as the "Realization of appreciation through depletion." The fact that this amount is allowed as "Invested Capital" by the treasury department seems to warrant its transfer to "Earned surplus."

### Special Surplus—Appreciation

In order to more clearly reflect the method above outlined, certain facts and figures will be assumed and the computations made:

| | |
|---|---|
| (a) Cost of leasehold | $10,000 |
| (b) Discovery value claimed by taxpayer and allowed by Commissioner | 100,000 |
| (c) Depletion allowed for period | 40,000 |
| Deducting the cost from the discovery value, appreciation is | 90,000 |

Applying the ratios indicated above, the total depletion sustained is divided into the folowing components:

| | |
|---|---|
| (d) Applicable to cost | $ 4,000 |
| (e) Applicable to appreciation | 36,000 |
| | $40,000 |

In the determination of net income, the taxpayer is entitled to a deduction of $40,000 on account of depletion sustained. This amount will be shown as a deduction from profits and carried as a reserve for depletion. Of this amount $36,000, however, represents an excess which has no relation to actual investment in the business.

Suppose a corporation has, at the beginning of the year, a surplus of $150,000 and net income for the year before deducting depletion of $50,000. Let us trace the changes brought about through computations reflecting depletion:

| | |
|---|---|
| **Net Income** | |
| Income before depletion | $50,000 |
| Deduct: Depletion | 40,000 |
| Taxable income | $10,000 |
| **Earned Surplus** | |
| Balance at beginning of year | $150,000 |
| Net income | 10,000 |
| | $160,000 |
| Realization of appreciation through depletion | 36,000 |
| Surplus, end of year | $196,000 |
| **Special Surplus—Appreciation** | |
| Credit through discovery revaluation | $90,000 |
| Deduct: Realization of appreciation through depletion | 36,000 |
| Balance to be returned | $54,000 |

In addition to the above, the assets will reflect an additional charge of $90,000, representing the appreciated leasehold value, and the "Reserve for depletion" will carry a credit balance of $40,000.

# Big Tanks—BIGGS Tanks

We get the orders for the big tanks because that's the kind we're qualified to build particularly well. Our plant is laid out and equipped to handle the big tank orders economically, and to produce the very highest grade of steel plate vessel.

A big tank represents a big investment, and we make it our business to see that it is a good investment for the buyer. From the buying of the steel to the final testing, we are organized to give you real high grade service on tanks and other steel plate equipment.

Take the matter of testing alone. Every Biggs tank is subjected to a cold water test under 10 lbs. hydrostatic pressure, which is much more severe than many tank builders consider necessary. That is extra insurance which we believe the buyers of tanks should have.

On 55,000 and 80,000 barrel storage tanks, our good service shows itself in erecting as well as in fabricating. Try us on your next requirements for any of the equipment listed here.

## The Biggs Boiler Works Company

**Akron, 35, Ohio**

***Specialists in Riveted Steel Plate Equipment***

Underground Storage Tanks.
Storage Tanks—up to and including 80,000 Barrels.
Fractionating Towers or Columns.
Dephlegmating Towers.
Pressure Stills for Cracking Process.
Steam Stills, Heat Exchangers.
Crude Stills, Condenser Boxes.
Agitators, Run Down Tanks.
Crude Storage Blending Tanks.
High Pressure and Accumulator Tanks.
Direct Heat Driers.

**"Made Right—Always Tight"**

# BIGGS TANKS

## *Field Storage and Refinery Equipment*

170

# Texas Production for Fourth Quarter

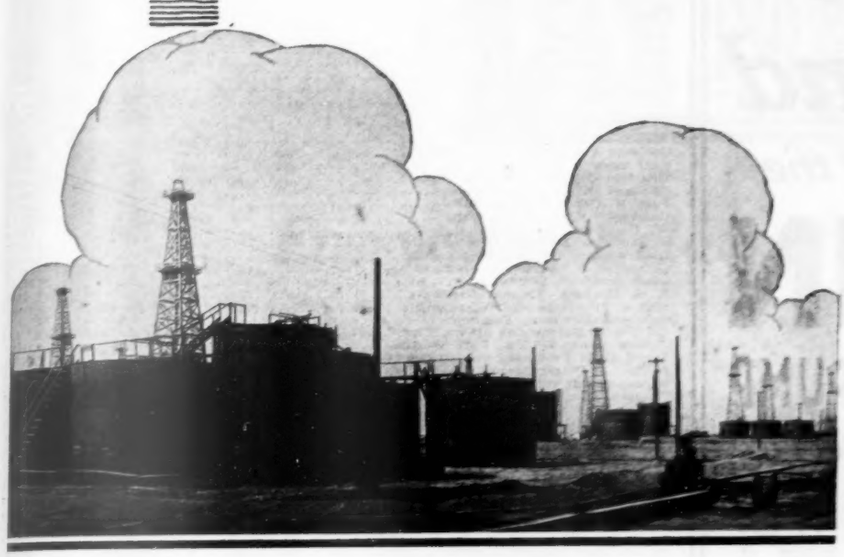
## Gross Output of Crude 1,121,483 Barrels Less Than Third Quarter With Drop of $6,337,736.49 in Value

The gross production of crude petroleum in Texas for the fourth quarter of 1924 totaled 31,194,205 bbls. with a value of $38,213,920.77, according to reports filed with the State Auditor of Texas by the producing companies for taxation purposes. While production showed a decrease in the final quarter of the year of 1,121,483 bbls., as compared to the output for the third quarter, according to the reports received by the State Auditor, the value of the crude oil brought to the surface in the last quarter of the year was $6,337,736.49 less than that produced and reported for the third quarter. The report, as compiled by the State Auditor's office for the fourth quarter, follows:

**COMPANIES REPORTING ON GROSS PRODUCTION FOR THE QUARTER ENDING DECEMBER 31, 1924**

| Name and Address— | Barrels | Value |
|---|---|---|
| Asociated Petroleum Co., Inc., Fort Worth | 17,466 | 22,768.85 |
| Aztec Petroleum Co., San Antonio | 907 | 635.26 |
| Atlantic Oil Producing Co., Dallas | 704,883 | 885,606.80 |
| E. M. Alworth, Laredo | 7,331 | 5,132.14 |
| Associated Oil Co., San Francisco, Cal. | 18,735 | 15,986.72 |
| Arkmo Oil Co., Somerset | 3,408 | 2,517.22 |
| American Refining Co., Inc., Wichita Falls | 21,735 | 27,151.41 |
| Andrews & Arnold, Wichita Falls | 127 | 162.39 |
| N. L. Amster, Ardmore, Okla. | 11,204 | 13,257.71 |
| M. L. Aaronson, Tulsa, Okla. | 92 | 64.67 |
| Alonzo, Jr., Oil Producers, Laredo | 13,133 | 9,193.26 |
| A. L. Agate, Trustee, Eastland | 728 | 911.00 |
| A. L. Agate, Trustee, Eastland | 74 | 58.81 |
| A. B. C. Oil Co., Electra | 1,495 | 1,868.80 |
| Ada Belle Oil Co., Batson | 26,899 | 37,575.76 |
| Adams & Oldham, Beaumont | 759 | 1,064.60 |
| All-American Oil & Gas Co., Oklahoma City, Okla. | 72 | 91.01 |
| Amicable Life Insurance Co., Waco | 496 | 620.00 |
| Acorn Oil Co., Beaumont | 6,046 | 8,705.53 |
| W. R. Andrews, et al, Breckenridge | 9,539 | 10,493.56 |
| H. Appleman Special, Tulsa, Okla. | 11,473 | 14,342.12 |
| Adamson Oil & Gas Co., Mexia | 1,242 | 1,552.85 |
| American Texas Oil Co., Somerset | 552 | 575.73 |
| E. J. Anderson, Wichita Falls | 3,140 | 4,001.13 |
| Andrews Petroleum Corp., New York, N. Y. | 8,750 | 6,909.60 |
| M. J. Arnold, San Antonio | 960 | 1,033.65 |
| Arkansas Fuel Oil Co., Pittsburgh, Pa. | 5,577 | 6,946.92 |
| J. S. Abercrombie Co., Houston | 3,558 | 5,083.26 |
| Alice Oil Co., Fort Worth | 218 | 258.97 |
| Apple-Brandeberry Oil Co., Wichita Falls | 10,407 | 15,497.34 |
| Apple-Brandeberry Oil Co. Wichita Falls | 16,153 | 18,942.43 |
| H. Appleman, Tulsa, Okla. | 86 | 108.23 |
| The Ashe Syndicate, Fort Worth | 1,304 | 1,630.49 |
| The Ascot Co., Wichita Falls | 1,819 | 2,274.92 |
| Baggett House Oil Co., Cameron | 2,088 | 2,610.52 |
| Wm. Bartlett Co., Electra | 829 | 1,027.30 |
| C. W. Boller, Wichita Falls | 3,110 | 4,018.83 |
| The Breckenridge Gasoline Co., Toledo, Ohio | 2,114 | 3,642.80 |
| S. J. Broughton, Brownwood | 150 | 135.00 |
| Mrs. Carrie L. Brown et al, Orange | 23,891 | 33,518.15 |
| Dr. E. H. Brown Estate, Orange | 3,262 | 4,549.84 |
| Burk-Venus Oil Co., Dallas | 289 | 361.31 |
| W. T. Bobo, Trustee, Battle Creek, Mich. | 581 | 727.30 |
| Brinkley Producing & Refining Co., Pittsburgh, Pa. | 1,050 | 1,298.60 |
| Bullington, Lee, Pendleton & Hammon, Wichita Falls | 13,432 | 17,283.69 |
| Mollie B. Baker, J. A. Baker, Breckenridge | 1,907 | 2,514.90 |
| Baker Oil Co., Inc., Houston | 5,709 | 7,878.71 |
| Brady Brothers, Ardmore, Okla. | 405 | 507.85 |
| T. G. Barkley, Sour Lake | 1,622 | 2,294.77 |
| Barnhart & Easton, Wichita Falls | 2,939 | 3,674.97 |
| C. E. Basham, Wichita Falls | 163 | 194.64 |
| Eli D. Bernstein, Oklahoma City, Okla. | 270 | 328.59 |
| William A. Biel, Von Ormy | 40 | 51.60 |
| The Big 5 Oil Co., Cisco | 3,896 | 4,632.31 |
| Blue Bonnett Petroleum Corp., San Antonio | 2,566 | 5,143.64 |
| Samuel Bright, Wichita Falls | 2,043 | 2,709.43 |
| A. J. Brenman, Cisco | 3,502 | 4,378.21 |
| W. W. Bynum, Minerva | 2,297 | 2,412.22 |
| Bashara & Unice, Waco | 125 | 330.00 |
| The Blakely Co., Houston | 26,414 | 36,666.62 |
| Bexata Oil Co., San Antonio | 3,223 | 3,534.73 |
| Bleakley & Kinnison, Wichita Falls | 1,535 | 2,124.25 |
| Boyd Oil Co., Dallas | 539,693 | 674,325.72 |
| S. R. Buchanan, Batson | 11,894 | 16,577.52 |
| E. Brodmann, Iowa Park | 285 | 342.20 |
| Bridwell, Heydrick & Palmer, Vernon | 31,443 | 49,130.12 |
| Bridwell, Heydrick & Palmer, Wichita Falls | 86,486 | 118,316.65 |
| M. H. Kilgore, Beaumont | 1,087 | 1,516.18 |
| W. H. Bradstreet, Wichita Falls | 710 | 888.34 |
| Bell Burk Oil Co., Wichita Falls | 960 | 1,260.53 |
| Britton & Ritchie, Strawn | 4,419 | 5,524.75 |
| Big Bend Oil & Gas Co., Laredo | 69,760 | 48,832.04 |
| K. E. Bailey, Tulsa, Okla. | 340 | 255.62 |
| J. Beren, Dallas | 89 | 89.17 |
| George I. Brown, San Antonio | 2,490 | 2,231.46 |
| J. K. Burr, San Antonio | 528 | 681.80 |
| George Beggs Strip, Fort Worth | 4,639 | 7,438.79 |
| M. J. Bashara, Wichita Falls | 8,630 | 10,793.66 |
| Brothers Oil Co., Inc., Tulsa | 17,287 | 21,608.78 |
| Bliss & Wetherbee, Shreveport, La. | 10,285 | 12,856.40 |
| Barkley & Meadows, Wichita Falls | 58,219 | 92,855.28 |
| The Benchil Co., Wichita Falls | 4,799 | 6,108.07 |
| Burkburnett Production Oil Tr., Wichita Falls | 2,035 | 2,544.50 |
| Blair & Kell, Dallas | 14,029 | 18,149.96 |
| The Buckeye Development Co., Columbus, Ohio | 213 | 255.19 |
| The Braden Co., Eastland | 20,043 | 25,000.56 |
| The Braden Co., Eastland | 6,247 | 7,809.46 |
| Big 4 Consolidated Oil Co., El Paso | 81,953 | 1,033.98 |
| Bradley Oil Co., Wichita Falls | 49,037 | 77,089.94 |
| Bass & Dillard, Wichita Falls | 40,485 | 50,607.28 |
| Blue Bird Oil Corp., Houston | 2,854 | 3,568.33 |
| Buffalo Texas Oil Co., Buffalo, N. Y. | 2,292 | 2,865.41 |
| Borealis Oil Co., Oklahoma City, Okla. | 5,449 | 6,811.42 |
| E. L. Bradley, Moran | 712 | 890.00 |
| Banner Oil Corp., Wichita Falls | 2,969 | 3,711.45 |
| Barkley & Meadows, Corsicana | 75,075 | 93,844.30 |
| Bryan Oil Corp., Wichita Falls | 2,909 | 4,277.35 |
| Big State Oil Corp., Dallas | 917 | 917.25 |
| Big Lake Oil Co., Pittsburgh, Pa. | 506,615 | 569,539.16 |
| Beggs Oil & Gas Co., McKinney | 1,523 | 1,902.50 |
| Bridwell, Heydrick & Palmer, Vernon | 8,063 | 10,083.21 |
| Mills Bennett, Houston | 54,128 | 60,697.65 |
| Bluebonnet Oil Co., Wichita Falls | 1,056 | 1,320.69 |
| J. P. Benkendorfer, San Antonio | 1,091 | 1,364.97 |
| The Burley Oil Co., Inc., Humble | 5,444 | 7,677.16 |
| Brownwood Producing & Refining Co., Brownwood | 6,693 | 8,310.28 |
| F. C. Baldwin et al, Fort Worth | 5,761 | 7,202.37 |
| W. L. Benson & Co., Robinson, Ill. | 1,894 | 2,636.21 |
| Barkley & Crotty, Ranger | 14,948 | 19,940.11 |
| Bridwell & Hydrick, Wichita Falls | 21,581 | 26,977.35 |
| Bass & Dillard, Kemp & Kempner, Wichita Falls | 2,805 | 3,507.00 |
| Bailey & McClure, Wichita Falls | 1,050 | 1,312.80 |
| Black Cat Oil Co., Electra | 3,485 | 4,615.44 |
| Brown & Co., Inc., Breckenridge | 4,209 | 5,261.45 |
| W. H. Cavitt, Batson | 165 | 248.10 |
| Roy I. Carter, Wichita Falls | 55,995 | 72,283.29 |
| Caltex Oil Co., Spokane, Wash. | 936 | 1,029.00 |
| Cohen & Lebow Trust, Wichita Falls | 1,227 | 1,458.19 |
| Cranfill & Reynolds, Inc., Corsicana | 15,306 | 18,488.56 |
| N. B. Chenault, Wichita Falls | 588 | 788.51 |
| Ciara Oil & Production Co., Beaumont | 796 | 1,111.01 |
| Ciara Oil Co., Wichita Falls | 538 | 538.84 |
| Clara Oil Co., Wichita Falls | 458 | 490.45 |
| Champlin & Winkler, Inc., Holdenville, Okla. | 166 | 223.01 |
| Cornucopia Oil Co., Fort Worth | 686 | 832.77 |
| Conway Brothers & Gilman, Cross Plains | 14,258 | 17,832.34 |
| Clem Oil Co., Houston | 1,100 | 1,562.32 |
| Commercial Petroleum Co., Brownwood | 494 | 445.49 |
| Corsicana Oil & Refining Co., Corsicana | 8,021 | 7,279.19 |
| Conley Delaney & Dyar Brothers, Ranger | 2,040 | 2,561.96 |
| Cochard & Williams, Moran | 325 | 406.39 |
| Coyle-Concord Oil Co., San Antonio | 4,418 | 6,522.02 |
| Coyle-Concord Oil Co., San Antonio | 4,130 | 4,988.47 |
| Aaron Cohen, Wichita Falls | 18,966 | 23,951.46 |
| Cavin & Lowry, Olney | 20,318 | 27,580.81 |
| Carnahan Producing & Refining Co., Canton, Ohio | 16,932 | 15,715.39 |
| Crystal Oil Corp. of Texas, Denver, Colo. | 2,950 | 3,688.49 |
| Coppock & Coleman, Iowa Park | 2,087 | 2,609.92 |
| Cox, Boyd & Mitchell, Wichita Falls | 258 | 322.47 |
| Cornhusker Oil Co., Laredo | 13,081 | 8,157.97 |
| C. G. Chandler, San Antonio | 14,818 | 10,373.91 |
| W. D. Cline et al, Wichita Falls | 394 | 492.51 |
| Cline Oil Co., Wichita Falls | 5,869 | 7,336.60 |
| Cal Brothers Oil Syndicate Tyrone, N. M. | 2,671 | 3,337.60 |
| Cheney & Anzac Oil Corp., Graham | 4,246 | 5,630.42 |
| Cisco Drilling Co., Dallas | 4,733 | 5,916.32 |
| Cornelius Brothers & Taggart, Eastland | 1,597 | 1,996.25 |
| Crown Oil & Refining Co., Houston | 24,504 | 34,462.45 |
| T. S. Crosbie, San Antonio | 3,185 | 3,476.52 |
| Caldwell-Guadalupe Pickup Stations, Inc., Luling | 10,137 | 9,124.16 |
| Curry & Conway Brothers, Cross Plains | 8,092 | 10,026.21 |
| Curry & Conway Brothers, Cross Plains | 2,320 | 3,158.60 |
| The Canyon Oil & Gas Co., Cross Plains | 6,613 | 6,930.70 |
| Chenault & Lea, Wichita Falls | 46,818 | 59,626.49 |
| Christie Brothers, Wichita Falls | 9,829 | 13,138.77 |
| Comet Petroleum Co., Fort Worth | 7,361 | 9,645.91 |
| Conner Son & Cloughley, Gotebo, Okla. | 9,574 | 11,967.41 |
| Caldwell Oil Co., Gonzales | 21,221 | 19,099.55 |
| The California Co., Colorado | 99,958 | 74,968.50 |
| Clark, Harbin & Baldridge, Wichita Falls | 63,702 | 86,359.95 |
| Carteret Oil Co., Jersey City, N. J. | 2,700 | 3,375.30 |
| Carey & Yarborough, Wichita Falls | 825 | 1,032.16 |
| P. A. Chapman Estate, Waxahachie | 80,196 | 100,246.96 |
| Cintex Petroleum Synd., Laredo | 31,309 | 21,914.35 |
| Charles E. Clough, Wichita Falls | 1,532 | 1,640.06 |
| Corona Petroleum Co., Jersey City, N. J. | 2,986 | 3,733.69 |
| Cosden Oil & Gas Co., Tulsa, Okla. | 45,878 | 53,852.52 |
| Cremer & Martin, San Diego, Cal. | 180 | 238.49 |
| W. F. Corts Drilling Co., Columbus, Ohio | 5,786 | 7,763.53 |
| F. T. Connor, Fort Worth | 2,517 | 2,893.93 |
| Caruthers Co., San Antonio | 22,927 | 30,909.92 |
| Critton Brothers, Caddo | 1,020 | 1,276.15 |
| Christie & Stoops, Moran | 9,905 | 12,381.47 |
| Consolidated Oil Co. of Texas, Wichita Falls | 4,933 | 6,219.90 |
| Edwin B. Cox, Ardmore, Okla. | 43,507 | 54,384.51 |
| Camp Oil & Gas Co., Wichita Falls | 6,723 | 9,748.66 |
| R. R. Clark, Wichita Falls | 1,768 | 2,167.31 |
| P. A. Chapman, Jr., Eastland | 857 | 1,014.16 |
| J. E. Crosbie, Tulsa, Okla. | 561 | 666.64 |
| N. F. Clark, Wichita Falls | 1,768 | 2,210.45 |
| Cosa Oil Co., Dallas | 532 | 666.09 |
| Connellee Oil Co., Eastland | 747 | 949.55 |
| Cowling & Newell Oil Co., Wichita Falls | 18,922 | 23,653.21 |
| Culbertson Co., Wichita Falls | 43,183 | 62,585.60 |
| Dale Oil Corp., Wichita Falls | 974 | 1,087.54 |
| Thomas Davis & Caroline Davis, Somerset | 759 | 998.32 |
| Dallas-Bradford Oil Co., Dallas | 5,637 | 7,046.71 |
| J. E. Dennis, Moran | 2,726 | 3,817.55 |
| Domestic Oil Co., Cisco | 1,543 | 1,883.27 |
| Jack Dalton Oil Co., Mineral Wells | 1,202 | 1,936.35 |
| Darby Petroleum Corporation of New York, Tulsa, Okla. | 5,595 | 6,994.37 |
| Drillers Developing Co., Electra | 7,438 | 9,297.50 |
| Dunigan & Hermann, Breckenridge | 1,596 | 1,995.56 |
| S. B. Daniel, Wichita Falls | 812 | 1,015.00 |
| Developers Oil & Gas Co., Wichita Falls | 211 | 324.15 |
| E. A. Dale Special, Electra | 66 | 98.69 |
| E. A. Dale Trustee, Electra | 1,472 | 1,683.72 |
| Dayton Oil Co., Dayton | 2,218 | 2,772.10 |
| H. H. Durston, Trustee, Houston | ..... | ..... |
| Delta Oil Co., Wichita Falls | 362 | 453.32 |
| Dale-Knotts Oil Co., Wichita Falls | 3,312 | 4,079.35 |
| Dominion Oil Co., Tulsa, Okla. | 233 | 328.90 |
| L. R. Davis, Tulsa, Okla. | 2,675 | 3,247.97 |
| Duquesne Oil Corp., Eastland | 244 | 244.00 |
| Deep Sands Oil & Gas Co., Corsicana | 11,505 | 14,381.63 |
| The Derby Oil Co., Dallas | 3,236 | 4,045.52 |
| Dickey Oil Co., Putnam | 713 | 796.39 |
| Dillon-Glasscock Co., San Antonio | 536 | 590.53 |
| C. W. Donley, Ranger | 6,279 | 7,849.25 |
| J. W. Duncan, Wichita Falls | 1,121 | 1,545.97 |
| B. Deutser, Trustee, Beaumont | 1,545 | 1931.31 |
| G. J. Donnelly, Trustee, Fort Worth | 3,696 | 4,646.10 |
| Eagle Creek Oil Co., San Francisco, Cal. | 6,206 | 7,758.32 |
| Evangeline Petroleum Co., Wichita Falls | 176 | 220.00 |
| Empire City Co., Tulsa, Okla. | 34 | 42.85 |
| The Economy Oil Co., Fort Worth | 3,260 | 4,038.19 |
| El Dorado Oil & Gas Co., Ranger | 3,932 | 4,915.98 |
| H. E. Ewing & Co., Los Angeles, Cal. | 1,160 | 1,440.73 |
| Webb T. Eby, Eastland | 1,546 | 1,623.83 |
| Erie Investment, Ltd., of Texas, Canada, Toronto | 5,047 | 7,570.73 |
| Elmore Oil & Gas Trust, Wichita Falls | 2,510 | 3,491.13 |
| Ebberts-Folloure & Herbert, Beaumont | 13,014 | 18,328.12 |
| East Batson Oil Co., Batson | 1,200 | 1,602.69 |
| Eddy Oil Co., Guffy | 234 | 261.39 |
| Ellis & Anderson, San Antonio | 138,762 | 175,396.74 |
| Empire Gas & Fuel Co., Bartlesville | 627 | 801.56 |
| Enterprise Oil Co., Atlanta, Ga. | 511 | 639.82 |
| Mrs. Sue Mitchell Lease, Eureka Drilling Co., Wichita Falls | 1,138 | 1,423.39 |
| Exley & Covert, Iowa Park | 1,852 | 2,146.85 |
| J. E. Eggers, San Antonio | 122 | 153.65 |
| El Paso-Burkburnett Oil Co., El Paso | ..... | ..... |
| Economy Oil Co., Fort Worth | 5,590 | 6,031.70 |
| Evans Oil Co., San Antonio | 7,902 | 9,876.37 |
| Equity Oil & Refining Co., Wichita Falls | 425 | 532.17 |
| Electra Callahan Oil Co., Electra | 26,279 | 33,474.31 |
| Electra Gulf Oil Co., Electra | 74,563 | 103,817.65 |
| Edgerly Petroleum Co., Orange | 30,968 | 38,692.92 |
| Eastland Oil Co., Fort Worth | 500 | 519.02 |
| L. M. Emlet, St. Louis, Mo. | 322 | 412.81 |
| David Erickson, Wichita Falls | 38,620 | 47,913.91 |
| Eureka Producing Co., Tulsa, Okla. | 3,120 | 3,942.31 |
| Fort Ring Oil & Gas Co., Fort Worth | 402 | 502.66 |
| Freeport Sulphur Co., Freeport | 17,721 | 22,114.66 |
| Fensland Oil Co. of Texas, Denver, Colo. | 723 | 1,006.58 |
| Fain & Fain Oil Co.-C. A. Adams, Humble | 16,383 | 21,502.66 |
| Freeman-Hampton Oil Corp., Wichita Falls | 407 | 502.39 |
| D. W. Franchot & Co., Tulsa, Okla. | 393 | 294.75 |
| John B. Fortune, Lockhart | 1,363 | 1,718.43 |
| Fritz Fuchs, Taylor | 5,990 | 4,193.30 |
| Farrell, James G. Co., Laredo | 55,856 | 69,820.75 |
| Farish, Watts, Collins & Crosby, Houston | 1,310 | 1,513.62 |
| Federal Oil Co. of Texas, Cleveland, Ohio | 1,772 | 2,305.75 |
| Perry I. Fox, Ranger | 4,040 | 5,008.99 |
| Farish & Ireland Lease, Houston | | |

# PERFECTION VAPOR PRESSURE TANKS
## WOOD, AND BOLTED STEEL TANKS



*The Wortham Pool which holds the record in quick development. Tanks in the foreground belonging to one of the biggest operators in the field are all Perfections—in fact the whole lease is Perfection equipped.*

# Lead All Other Makes Combined at Wortham!

FULLY half the lease and small storage tanks sold at Wortham were Perfections.

Some record when every one admits that this Texas pool was the most rapidly developed in the history of Petroleum.

Lease after lease is equipped with nothing but Perfections with the startling result that today there are as many of our tanks in the field as all other makes combined.

There is a reason of course.

First of all, Black, Sivalls and Bryson are especially organized to take care of an emergency such as existed at Wortham. To assist our fast "stepping" Texas division, men and equipment were mobilized at Wortham from all over the Mid-Continent.

Back of it all, of course, is the certain knowledge on the part of the oil producers at Wortham that Perfection tanks have no superiors on the market. Previous experience had taught them that the purchase of Perfections would be an immediate move in the direction of economy.

And it was demonstrated before their eyes in the rush and bustle

***That Perfection Tanks Are Backed by a Field Service That Is Incomparable***

# Black Sivalls & Bryson
INC.

BARTLESVILLE ~ OKLAHOMA

*Branch offices in all principal active fields*

# Wherever oil is found

*You will also find the*

# LARKIN

PATENTED

## IMPROVED SAND PUMP

*giving dependable service*

Its popularity has spread rapidly since it was first introduced in Eastern fields. The one reason for its present wide distribution in service is *good results.*

This famous pump is designed to meet all conditions, and does, with an unusual degree of satisfaction. In every way it is representative of *The Larkin Line* and reflects the way in which all our Drilling and Fishing Tools have fulfilled the needs of the Industry.

Today *The Larkin Line* is more complete than ever, but it still has its basis in the one characteristic we have always held fundamental—*thorough reliability in the performance of the duty for which intended.*

If this is what you want, get *Larkin Products* from any of the leading supply stores.

*Our new catalogue No. 25 describes The Larkin Line. May we send you a copy?*

## LARKIN & CO.

BUTLER, PA., U. S. A.


| Name and Address— | Barrels | Value |
|---|---|---|
| Five Rivers Oil & Gas Co., Wichita Falls | 1,005 | 1,478.85 |
| Fuller & Daniel, Wichita Falls | 5,941 | 8,912.17 |
| Fogle Oil Co., Minerva | 2,423 | 3,029.67 |
| Wirt Franklin, Ardmore, Okla. | 18,306 | 22,883.35 |
| Fresno Oil Co., Wichita Falls | 22,199 | 28,048.63 |
| Ferguson, Hawkins & Hester, Wichita Falls | 7,020 | 9,505.97 |
| Foster, Watson & Ferguson, Wichita Falls | 763 | 954.00 |
| Forty-One Oil Co., Wichita Falls | 2,418 | 3,022.50 |
| Freddie Palmer Oil Co., Rockdale | 309 | 325.09 |
| Ferguson & Watson, Electra | 2,865 | 3,826.52 |
| Frontier Oil Co., San Antonio | 23,083 | 24,268.95 |
| Fountain Producing Co., Saratoga | 5,397 | 7,513.71 |
| Henry J. Fisher, Newport, N. Y. | 1,749 | 2,260.70 |
| Fisher & Gilliland, Wichita Falls | 5,931 | 8,799.50 |
| W. F. Flynn, Beaumont | 2,182 | 3,277.01 |
| E. E. Fuller, Wichita Falls | 482 | 602.49 |
| J. A. Gardner, Wichita Falls | 19,377 | 23,640.00 |
| Louis Gutman, Corsicana | 3,824 | 4,780.71 |
| Max Gutman, Corsicana | 8,153 | 11,078.70 |
| F. L. Godfrey, Enid, Okla. | 175 | 236.27 |
| Grayce Oil Co., Burkburnett | 15,391 | 19,204.14 |
| Goolsbee & Graham, Wichita Falls | 325 | 406.51 |
| Gulf Royalty & Producing Co., Houston | 4,662 | 3,652.38 |
| Griswold Oil Corp., Wichita Falls | 56,113 | 70,141.42 |
| Gilliland Oil Co., Tulsa, Okla. | 2,011 | 2,560.88 |
| Fred M. Gates, Wichita Falls | 2,246 | 2,800.76 |
| Galvez Oil Corp., Tulsa, Okla. | 7,542 | 8,249.76 |
| W. T. Garrett, Eastland | 336 | 422.06 |
| Ginsburg & Bohner, Burkburnett | 3,265 | 4,281.24 |
| Gladys Belle Oil Co., Tulsa, Okla. | 3,582 | 4,301.05 |
| Gallagher & Lawson, Desdemona | 648 | 803.70 |
| Glass Brothers, Minerva | 2,163 | 3,325.73 |
| E. S. Graham, Trustee, Graham | 5,170 | 6,437.56 |
| Gultex Producing Co., Waxahachie | 6,067 | 7,584.96 |
| Gabler & Brannon, Eastland | 2,061 | 2,576.87 |
| Gilliam McMurray and others, Cisco | 2,570 | 3,212.89 |
| Gilliam Logan Oil Co., Fort Worth | 5,467 | 4,517.24 |
| Grand Duke Producing Co., Muskogee, Okla. | 302 | 454.41 |
| Gutzler & Cottingham, Indianapolis, Ind. | 87 | 109.63 |
| Galena-Signal Oil Co., Houston | 167,395 | 227,085.83 |
| Gholson, Morrman Dorsey and others, Ranger | 5,006 | 6,702.43 |
| Godley Oil & Gas Co., Henrietta | 15,455 | 17,822.43 |
| Gordon Oil Co. of Texas, Wichita Falls | 166 | 208.66 |
| D. Grady, Electra | 854 | 1,068.36 |
| Granite Oil & Gas Co., Montrose, Colo. | 374 | 468.74 |
| Gulf Coast Oil Corp., Houston | 32,024 | 44,939.81 |
| H. L. Graham, Wichita Falls | 1,278 | 1,598.15 |
| Goolsbee & Goolsbee, Wichita Falls | 93 | 117.03 |
| P. F. Gwynn, Wichita Falls | 23,760 | 30,000.27 |
| Grayburg Oil Co., San Antonio | 370,935 | 354,351.59 |
| Golconda Oil Co. No. 1, Wichita Falls | 455 | 569.03 |
| Glasscock Leasing Syndicate, San Antonio | 4,848 | 5,970.19 |
| M. E. Glasscock, San Antonio | 747 | 928.08 |
| Gholson, Thompson, Barkley & Crotty, Ranger | 12,880 | 17,263.71 |
| P. F. Gwynne, Trustee, Iowa Park | 1,688 | 2,111.04 |
| W. F. Gutzler, Wichita Falls | 294 | 368.53 |
| Gates Oil Co., Ardmore, Okla. | 3,732 | 4,665.95 |
| Graham & Co., Breckenridge | 413 | 529.63 |
| General Oil Co., Houston | 5,204 | 6,502.28 |
| W. D. Gillett and others, Cross Cut | 675 | 843.80 |
| Gulf Production Co., Houston | 2,538,216 | 3,219,928.74 |
| Gilbert Co., Beaumont | 4,863 | 6,857.66 |
| Golconda Oil Co. No. 1, Wichita Falls | 455 | 569.03 |
| Graham & Lash, Moran | 4,204 | 5,256.35 |
| C. H. Gilchrist, Wichita Falls | 1,099 | 1,374.64 |
| Hardy Oil Co., Wichita Falls | 3,401 | 3,860.13 |
| J. C. Hunt, Wichita Falls | 1,876 | 1,818.69 |
| J. K. Hughes Oil Co., Mexia | 99,701 | 124,626.33 |
| Hitchman & Howard, San Antonio | 2,468 | 3,355.06 |
| Hobson & Voorhees, San Antonio | 2,100 | 2,714.65 |
| Hobbs Oil Co., Wichita Falls | 11,472 | 16,869.08 |
| J. E. Haggard, Wichita Falls | 843 | 1,257.00 |
| William K. Hughes, Trustee, St. Louis, Mo. | 3,042 | 4,081.70 |
| E. P. Hodges, Corsicana | 75,917 | 108,945.79 |
| John W. Hooser, Dallas | 151,941 | 189,927.10 |
| O. P. Haney, Trustee, Fort Worth | 289 | 362.25 |
| Hockaday & Shaw, Wichita Falls | 3,251 | 4,064.47 |
| J. H. Hemby, Electra | 489 | 611.69 |
| The Hickok Producing & Development Co., Toledo, Ohio | 386 | 381.44 |
| Houston Oil Co. of Texas, Houston | 10,015 | 12,673.81 |
| Hoo Hoo Oil Co., Burkburnett | 148 | 215.89 |
| Halmack Oil Co., Dallas | 6,699 | 8,734.09 |
| Helvetta Oil Co., San Antonio | 17,287 | 22,856.35 |
| J. H. Ober, Trustee, St. Louis, Mo. | 1,496 | 1,870.05 |
| H. B. J. Oil & Gas Trust, Wichita Falls | 3,405 | 4,256.51 |
| Harry A. Muse, Wichita Falls | 2,327 | 3,000.79 |
| George S. Herney, Breckenridge | 166 | 183.60 |
| Hobbs Chenault & Burleson, Wichita Falls | 28,069 | 35,013.20 |
| H. L. Hamilton, San Antonio | 9,738 | 12,173.87 |
| Earl C. Hamkamer & Co., Sour Lake | 1,639 | 2,413.82 |
| F. P. Hodge, Trustee, Corsicana | 64,984 | 81,230.15 |
| J. K. Hughes Development Co., Mexia | 319,011 | 352,678.68 |
| Hester, Hawkins & Ferguson, Wichita Falls | 9,582 | 11,978.22 |
| George Hambleton, San Antonio | 948 | 1,166.99 |
| Jake L. Hammond, Jr., Ardmore, Okla. | 5,358 | 6,982.07 |
| R. A. Harvey, Houston | 865 | 1,234.61 |
| Herbert Oil Co. of Texas, Fort Worth | 398 | 497.53 |
| Huecco Ranger Oil Co., El Paso | 769 | 961.48 |
| Hyde Production Co., Houston | 13,339 | 20,978.49 |
| Fred Heyer, Fort Worth | 1,628 | 2,198.49 |
| Harris Fischer Oil Co., Cisco | 2,154 | 2,883.39 |
| E. R. Henderson, Trustee, Tulsa, Okla. | 689 | 862.26 |
| Homaokla Oil Co., Oklahoma City, Okla. | 10,173 | 12,717.37 |
| Humble Oil & Refining Co., Houston | 3,428,657 | 4,365,546.37 |
| Heflin, McIntosh & Thomas, Cameron | 1,122 | 1,365.59 |
| J. M. Hester, Trustee, Humble | 1,262 | 1,738.82 |
| Higgins Oil & Fuel, Houston | 31,552 | 38,679.96 |
| Hub Oil Co., Dallas | 607 | 759.52 |
| Humphreys & Merrett, Wichita Falls | 2,532 | 3,286.54 |
| Howell & Easton, Electra | 393 | 492.11 |
| W. T. Hoppes, Burkburnett | 116 | 148.19 |
| Herford Oil Co., Electra | 7,377 | 9,222.60 |
| C. G. Hammill, Bay City | 650 | 897.98 |
| Hickory Oil & Gas Corp., Fort Worth | 1,229 | 1,362.81 |
| Hoffmire & Deegans, Fort Worth | 1,462 | 1,955.54 |
| W. H. Hammond and others, Wichita Falls | 1,015 | 1,269.50 |
| J. V. Henley and others | 3,188 | 3,986.32 |
| Halliday & Caffall, Beaumont | 811 | 1,149.10 |
| The Hanover Co., Inc., Fort Worth | 6,792 | 8,490.98 |
| Hart Oil Co., Fort Worth | 3,272 | 4,068.69 |
| Hart Mexia Syndicate, Fort Worth | 1,080 | 1,351.11 |
| Hill & Jones, Houston | 6,799 | 7,437.26 |
| H-Y Oil Co., Fort Worth | 8,708 | 10,207.18 |
| Houston Production Co., Houston | 72,330 | 92,109.52 |
| Hobbs Oil Co., Tulsa, Okla. | 7,126 | 8,759.24 |
| J. M. Hardie & Co., Sour Lake | 1,104 | 1,515.52 |
| Inca Production Corp., Houston | 7,228 | 10,146.88 |
| The Inca Oil Co., New York, N. Y. | 2,465 | 3,081.28 |
| Infield Petroleum Co., Austin | 4,131 | 4,625.07 |
| The Iowa Park Oil Co., Iowa Park | 3,214 | 4,109.96 |
| The Indiahoma Corp., Okmulgee | 2,383 | 2,979.21 |
| A. G. Iseng, Fort Worth | 14,174 | 18,752.17 |
| Inland Oil Co., Wichita Falls | 3,863 | 4,871.07 |
| Idaho Oil Co., San Antonio | 3,498 | 4,159.90 |
| Ironland Oil Co., Wichita, Kans. | 890 | 1,112.61 |
| Frank L. Jewett, Breckenridge | 1,241 | 3,920.49 |
| Judson Oil Co., Wichita Falls | 14,306 | 17,382.46 |
| O. C. Johnson, Laredo | 2,952 | 2,288.65 |
| Charles M. Jameson, Moran | 2,211 | 2,769.65 |
| C. B. Japhet, Houston | 2,677 | 3,728.50 |
| Jones Oil Co., Wichita Falls | 19,860 | 24,835.00 |
| Ted R. Jay, Sipe Springs | 310 | 419.49 |
| Johnson Brothers, San Antonio | 10,985 | 13,635.60 |
| C. A. Jones, Strawn | 2,142 | 3,676.20 |

# THE LAYNE

Patent

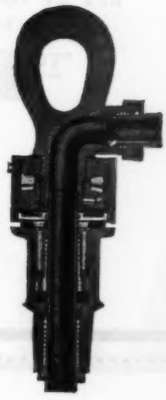
## *Everything Below the Casing*

Keystone Wire Wrapped Screen

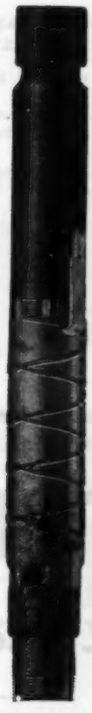
Lead and Canvas "Double Seal" Ratchet Packer

Outside View

Swivel



Sectional View



All Canvas Screw-Off Packer

Setting Tool for all types of Ratchet Packers

Top View

Special Heavy Back Pressure Valve

Bottom View

Cone Shaped Screw Wash Ring

Lead Cone and Canvas Ratchet Packer

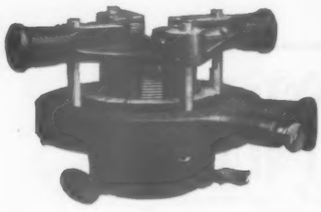
All Canvas Pin Packer

## *24 Hour Service*

## *7 Days in the Week*

# Layne & Bowler Company

**Houston, Texas**



"TOLEDO" NO. 1A
1" to 2" Ratchet Threader

$12.00 Net

(STATES WEST OF THE ROCKIES NET PRICE .....$12.75)

It is the outstanding value in pipe threading tools today.

The same incomparable genuine "TOLEDO" No. 1A 1" to 2" ratchet threader at this new reduced price.

Never before could you purchase a threading tool of this character at this low price.

Place your order with your jobber today.

BUY BY COMPARISON AND YOU'LL BUY A "TOLEDO"

THE TOLEDO PIPE THREADING MACHINE CO.
Toledo, Ohio

TULSA
Boiler & Machinery Co.

*Builders and Erectors of*

RIVETED AND ELECTRIC WELDED TANKS

*Manufacturers of*

GASOLINE PLANT AND REFINERY EQUIPMENT

SHOPS LOCATED AT WEST TULSA

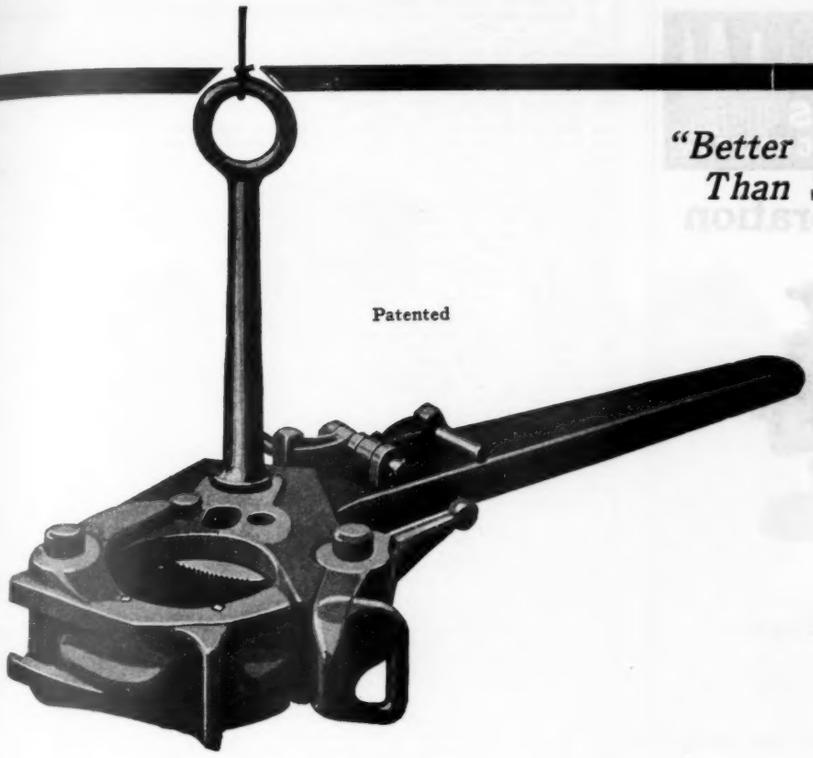
P. O. Address
Box 1963, Tulsa

Phones
33000 and 9919


| Name and Address— | Barrels | Value |
|---|---|---|
| Julia Oil Co., Sour Lake | 4,620 | 6,487.15 |
| Junior Oil Co., Cross Plains | 4,854 | 6,938.70 |
| Judson Oil Co., Tulsa, Okla. | 11,972 | 14,965.92 |
| Jackson, J. S., Sour Lake | 2,306 | 3,460.04 |
| The Jackson Co., San Antonio | 2,174 | 3,584.94 |
| Junior Oil & Pipe Line Co., Corsicana | 1,164 | 1,047.90 |
| Kemp Munger Allen Oil Co., Wichita Falls | 5,491 | 6,864.46 |
| Killam Condren Oil Co., Laredo | 3,718 | 3,662.28 |
| O. W. Killam, Laredo | 817 | 572.90 |
| Kuhlemeier-Kleiner Oil Co., Cisco | 4,771 | 5,964.23 |
| Kirby Petroleum Co., Houston | 175,938 | 219,298.24 |
| Kemp & Underwood, Cisco | 490 | 612.66 |
| K. Kishi, Terry | 696 | 940.90 |
| Kate Bell Oil Co., Dallas | 3,694 | 4,618.12 |
| King Booth & Nesbit Synd., Kansas City, Mo. | 477 | 597.90 |
| Kurz Oil Co., Somerset | 786 | 764.95 |
| Keener Oil & Gas Co., Tulsa | 5,482 | 7,940.57 |
| Knox Finley Development Co., Wichita Falls | 850 | 1,064.50 |
| F. F. Knotts, Wichita Falls | 965 | 1,244.63 |
| T. P. Kerr, Corsicana | 440 | 551.14 |
| Keough Brothers, Cisco | 10,399 | 12,998.86 |
| E. F. Keith, Desdemona | 2,285 | 3,056.16 |
| G. C. Kent, Corsicana | 280,889 | 351,111.36 |
| Kentucky Oil Corp., Wichita Falls | 1,593 | 2,386.32 |
| King Petroleum Corp., Wichita Falls | 2,702 | 3,378.55 |
| KBHT Synd., Vernon | 795 | 994.23 |
| Knox-Lewis Oil Co., Eastland | ..... | ..... |
| Mrs. Fansie Kornfeld, Tulsa, Okla. | 305 | 381.81 |
| Kirks & Brewer, Gorman | 4,614 | 6,157.57 |
| Kentucky Oil Corp., Wichita Falls | 2,214 | 2,582.76 |
| Kimmell & Dillard, Wichita Falls | 5,813 | 7,264.73 |
| G. F. Kolp, Electra | 7,449 | 9,630.26 |
| Kemp Randel & Wilson, Vernon | 50 | 62.70 |
| E. L. Kelts, Vernon | 4,849 | 7,740.34 |
| Leonard Oil Co., Somerset | 452 | 582.94 |
| George Leonard, Somerset | 140 | 133.46 |
| Louisiana Oil Refining Corp., Shreveport, La. | 38,208 | 59,123.89 |
| Lee Farm Oil Co., Wichita Falls | 1,082 | 1,351.51 |
| Lone Star Refining Co., Wichita Falls | 676 | 692.90 |
| Henry S. Livingston, Fort Worth | 381 | 419.54 |
| M. Lebow & Simon Lebow, Tulsa, Okla. | 6,893 | 8,617.00 |
| W. S. Langford, Wichita Falls | 9,242 | 11,553.22 |
| Lowry Oil Corp., Muskogee, Okla. | 5,828 | 8,580.66 |
| Lake View Oil Co., Sour Lake | 14,053 | 20,426.91 |
| Laclede Petroleum Co., Dallas | 188 | 234.31 |
| J. B. Levy, Wichita Falls | 1,962 | 2,409.15 |
| Lowe, Delaney & Carter, De Leon | 8,024 | 10,673.64 |
| Laredo Oil Co., Laredo | 7,278 | 7,278.19 |
| Ladd Hamon Oil Corp., Fort Worth | 73 | 80.24 |
| Light Oil Co., Beaumont | 1,887 | 2,639.45 |
| Link Oil Corp., Houston | 4,814 | 6,706.32 |
| Len-Cook Oil Co., Electra | 2,979 | 3,724.62 |
| Lytle Oil Association, Lytle | 509 | 627.34 |
| Lake Graham Oil Co., Houston | 1,387 | 2,032.02 |
| Landreth Production Corp., Breckenridge | 18,636 | 24,924.19 |
| Homer Lee, Wichita Falls | 1,130 | 1,413.45 |
| The Lion Tamers Oil Corp., Albany | 254 | 318.70 |
| Burnett-Lloyd Lease, Wichita Falls | 1,049 | 1,311.44 |
| Lewis Oil Co., Pittsburgh, Pa. | 67,924 | 84,906.24 |
| Lewis Oil Co., Pittsburgh, Pa. | 3,969 | 4,896.58 |
| Lain Oil Co., San Antonio | 2,103 | 2,903.13 |
| Liner-Guerin et al, Breckenridge | 644 | 857.05 |
| Lucky Six Oil & Gas Co., Bangs | 577 | 577.59 |
| Lee-Hans Oil Co., Inc., Minerva | 3,001 | 3,151.98 |
| Lee Oil Co., Minerva | 3,691 | 3,875.92 |
| Lee-Nelhaus Oil Co., Inc., Minerva | 930 | 977.21 |
| Lee-Phillips Oil Co., Inc., Minerva | 3,190 | 3,348.56 |
| Lowe Parry Oil Co., De Leon | 792 | 1,028.97 |
| George E. Lamb, Brownwood | 2,506 | 3,163.78 |
| I. A. Lange, Wichita Falls | 401 | 501.88 |
| Little Caddo Synd., Fort Worth | 5,524 | 6,918.39 |
| B. M. Lindsey et al, Dallas | 3,952 | 5,365.54 |
| Longhart Supply Co., Fort Worth | 935 | 1,223.36 |
| Lane Inland Oil Co., Wichita Falls | 4,241 | 5,301.56 |
| Livingston Oil Corp., Tulsa, Okla. | 41,871 | 54,267.58 |
| Lucky Seven Oil Co., Wichita Falls | 49 | 61.63 |
| William Little, Breckenridge | 3,289 | 4,111.77 |
| Jerome McLester, Fort Worth | 6,107 | 6,412.37 |
| J. D. Meredith, Moran | 312 | 380.74 |
| H. L. McGregor, Receiver, Wichita Falls | 1,102 | 1,609.58 |
| J. W. McReynolds, Wichita Falls | 64 | 97.38 |
| Miami Laredo Oil Co., Laredo | 4,421 | 3,094.84 |
| Mirando Oil Co., Laredo | 315 | 220.93 |
| McKes Oil & Gas Co., Ardmore, Okla. | 1,274 | 1,704.41 |
| Moss & Keys, Mexia | 5,695 | 6,865.16 |
| McNallen & Griffin, Tulsa, Okla. | 6,853 | 8,734.05 |
| Magna Oil & Refining Co., Tulsa, Okla. | 5,081 | 7,774.23 |
| Mrs. L. W. McGlothlin, Bellevue | 665 | 826.94 |
| G. W. McFann, Trustee, Tulsa, Okla. | 340 | 255.63 |
| Montgomery-Rea-Montgomery, Sedwick | 3,694 | 4,617.84 |
| Monarch Oil & Refining Co., Houston | 62,462 | 80,967.94 |
| Emil Michna, Wichita Falls | 1,592 | 1,991.19 |
| Martin Brothers, Washington, D. C. | 1,943 | 2,060.00 |
| Madison Oil & Gas Co., Fort Worth | 1,681 | 2,101.35 |
| Martin Petroleum Co., Humble | 3,564 | 5,163.25 |
| Estate H. B. McDowell, El Paso | 69 | 96.97 |
| Morrison, St. John & Kleiner Brothers, Cisco | 2,838 | 3,548.78 |
| Monroe Producing Co., Graham | 364 | 491.37 |
| Ed McCarthy Well, Galveston | 285 | 357.39 |
| J. P. McEwan, Trustee, Fort Worth | 1,920 | 2,578.51 |
| Murphy Oil Co. of Pennsylvania, Philadelphia, Pa. | 1,019 | 1,019.97 |
| Murchison, Fain & Golding, Wichita Falls | 107,138 | 136,917.35 |
| Mecom Oil Co., Houston | 50,347 | 61,763.61 |
| Marsalis Brothers, Humble | 2,533 | 3,664.85 |
| W. C. McBride, Inc., St. Louis, Mo. | 3,788 | 4,175.83 |
| Medina Oil & Gas Association, San Antonio | 542 | 666.33 |
| Murchison & Fain, Wichita Falls | 20,980 | 27,281.86 |
| Miller Brothers, Breckenridge | 1,502 | 1,877.00 |
| G. P. Mitcham, Fort Worth | 669 | 698.68 |
| R. C. McCarter, Cisco | 1,262 | 1,578.55 |
| Maben Oil Corp., Wichita Falls | 989 | 1,236.13 |
| R. W. Mancill, Cisco | 1,317 | 1,647.18 |
| Mann & Forbes, Graham | 3,851 | 4,811.87 |
| The Mayemack Co., Cisco | 2,658 | 3,270.77 |
| G. W. Mennis, Wichita Falls | 3,986 | 5,952.80 |
| Minerva Petroleum Co., Minerva | 742 | 928.23 |
| Mogul Oil Corp., Eastland | 594 | 648.94 |
| F. L. Moore, Trustee, Tulsa, Okla. | 5,602 | 6,919.00 |
| W. A. Goforth, Rec., Meridian Petroleum Corp., Tulsa, Okla. | 6,409 | 9,441.48 |
| Moore & Henderson, Tulsa, Okla. | 882 | 1,103.23 |
| Mary Elizabeth Oil Co., Tulsa, Okla. | 93 | 118.70 |
| Mid-Co. Petroleum Co., Tulsa, Okla. | 1,036 | 1,202.71 |
| Mills & Garitty, Corsicana | 1,699 | 2,124.81 |
| Mohegan Oil Co., Mohegan Lake, N. Y. | 375 | 501.38 |
| McCarty Oil Co., Wichita Falls | 50,288 | 62,860.15 |
| McMan Oil & Gas Co., Tulsa, Okla. | 114,919 | 144,996.05 |
| McNeil Hardware & Implement Co., Valley Mills | 104 | 130.00 |
| Marnet Oil & Gas Co., New York, N. Y. | 4,411 | 5,514.79 |
| E. H. McVey, Kansas City, Mo. | 7,776 | 8,499.70 |
| Magnolia Petroleum Co., Dalls | 1,418,382 | 1,680,740.29 |
| Maer & Staniforth, Wichita Falls | 65,985 | 82,481.54 |
| Minntex Oil Corp., Wichita Falls | 875 | 993.74 |
| M. & V. Oil Co., Wichita Falls | 4,159 | 5,177.41 |
| Muse & Robertson, Wichita Falls | 64,669 | 85,373.58 |
| Mook-Texas Oil Co., Inc., Eastland | 20,692 | 28,614.96 |
| Amos J. Mitchell, Wichita Falls | 133 | 166.96 |
| H. G. Miller, Eastland | 254 | 315.17 |
| Mann Power Oil Co., Wichita Falls | 146 | 182.73 |
| Mann Oil Co., Wichita Falls | 13 | 16.94 |
| McNamara Oil Co., Beaumont | 2,860 | 4,074.62 |
| McDabb Oil Co., Wichita Falls | 3,580 | 4,475.29 |
| Middletown Tex Oil Syndicate, Eastland | 937 | 1,141.27 |
| Mutual Oil Co., Denver, Colo. | 305,740 | 376,835.36 |
| Mahlstedt Mook Oil Co., Fort Worth | 39,045 | 48,984.63 |
| Mann McPhail Oil Co., Wichita Falls | 49 | 61.63 |
| W. L. Mann & Cosmopolitan Oil Co., Wichita Falls | 1,732 | 1,995.98 |
| Matador Oil & Gas Co., Quanah | 843 | 1,054.62 |
| L. F. Mendenhall, Trustee, Cross Plains | 956 | 1,195.65 |
| Mid-Kansas Oil & Gas Co., Findlay, Ohio | 178,909 | 216,776.63 |

*"Better Be Safe Than Sorry"*

Patented



# ONLY FIVE MAIN PARTS

## Guiberson SPECIALTIES

Guiberson Tubing Catcher
Guiberson Swab
Guiberson Control Head Packer
Guiberson Underreamer
Guiberson Spiral Bottom Water Plug
Guiberson Spiral Tubing Packer
Guiberson Spiral Casing Packer
Guiberson-Mills Casing Tong
Guiberson Piston

Frame—Yoke—Handle—Cam Die—Latch.
Spelling Strength, Simplicity, Durability.
Note the great amount of take-up for worn down joints.

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506 Trust Bldg., NEWARK, O.

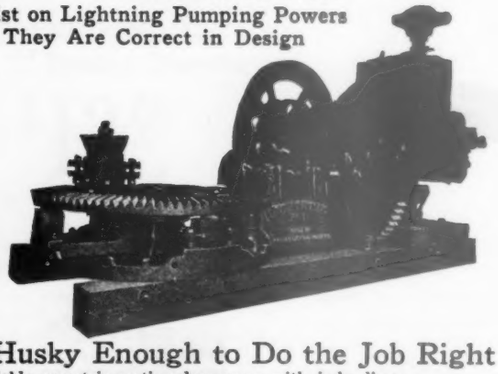
# GUIBERSON

BETTER BE SAFE THAN GUIBERSON SORRY

# More Power—Less Vibration

*Instant Service*

Insist on Lightning Pumping Powers
They Are Correct in Design



## Husky Enough to Do the Job Right

**The reliable eccentric motion does away with jerky lines.**
**Built in three sizes:**

**No. 4—Belt Drive, weight 6,500 lbs. For deep wells.**
**No. 2—12 H. P. engine, weight 4,600 lbs.**
**No. 1—6 or 8 H. P. engine, weight 3,200 lbs.**

**Turntable gear is easily removable and having a broad face, coarse teeth and large diameter will stand up to the heaviest loads.**
**Shackle lines set low to the ground (13 in.) eliminate excessive strain. Quickly installed.**

Oil Field Supply Dept.

**KANSAS CITY HAY PRESS COMPANY**
Kansas City, Mo.

1

# *An Absolute Necessity Where Oil Is Used as a Fuel*

FISHER
OIL PUMP
GOVERNOR
NO. 56

*—for maintaining a fixed discharge pressure in oil lines*

The construction of the Fisher Oil Pump Governor Type 56 embodies ideas and principles that make it possible to give most efficient service. It eliminates troublesome rubber diaphragms. It is better in every way. Write today for Bulletin 602.

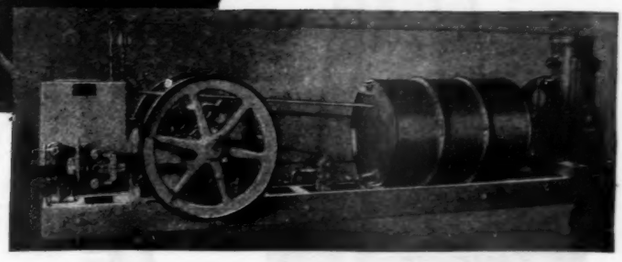
**THE FISHER GOVERNOR CO.**

*Dependable Specialties*

366 Fisher Ave. Marshalltown, Iowa


| Name and Address— | Barrels | Value |
|---|---|---|
| F. M. McMahon, Trustee, Denver, Colo. | 5,668 | 7,421.10 |
| N. A. Moore, Eastland | 3,419 | 4,453.34 |
| Minor Oil Co., Beaumont | 9,334 | 12,595.90 |
| Margay Oil Corp., Tulsa, Okla. | 7,145 | 10,701.22 |
| Nine Hundred Oil Co., Burkburnett | 3,060 | 3,476.56 |
| Nueva Oil Co., Laredo | 9,620 | 6,743.24 |
| G. W. Nickel and others, Putnam | 5,571 | 6,962.75 |
| New Domain Oil & Gas Co., Pittsburgh, Pa. | 9,457 | 11,376.88 |
| The National Oil Co., San Antonio | 2,085 | 2,183.37 |
| Newblock Oil Co. of Texas, Tulsa, Okla. | 13,223 | 16,529.61 |
| New England Texas Oil & Refining Co., Easthampton, Mass. | 143 | 150.41 |
| New England Texas Oil & Refining Co., Easthampton, Mass. | 74 | 111.66 |
| Number Nine Oil Corp., Tulsa, Okla. | 5,272 | 6,533.33 |
| Norman Oil Co., Wichita Falls | 13,252 | 18,349.86 |
| The Norba Oil Co., Wichita Falls | 1,854 | 3,218.33 |
| Noock Oil Co., Rockdale | 4,297 | 4,673.68 |
| Nortex Drilling & Development Co., St. Louis, Mo. | 519 | 649.88 |
| North Texas Oil Co., Vernon | 4,009 | 5,012.13 |
| Noble Oil & Gas Cas, Tulsa, Okla. | 7,014 | 8,768.55 |
| The National Supply Co., Toledo, Ohio | 244 | 305.67 |
| Oil Investment Co., Wichita Falls | 5,507 | 7,292.16 |
| Omilak Oil Co., Spokane, Wash. | 686 | 768.32 |
| Ocean Oil & Refining Co., El Paso | 288 | 360.98 |
| Oriental Oil Co., Dallas | 3,104 | 3,567.33 |
| Oil Production Co., Houston | 1,185 | 1,482.09 |
| Owenwood Oil Corp., Fort Worth | 7,271 | 9,857.76 |
| The Ohio Somerset Oil Co., San Antonio | 2,516 | 2,544.45 |
| The Oktaha Co., Tulsa, Okla. | 1,101 | 1,377.41 |
| Old Colony Oil Co., Dayton | 2,621 | 3,109.21 |
| Owens Petroleum Co., Cameron | 2,595 | 3,244.32 |
| Owens Refining Co., Cameron | 252 | 315.00 |
| H. A. O'Neil, Wichita Falls | 2,962 | 3,779.42 |
| John O'Neil, Wichita Falls | 24,299 | 31,090.90 |
| Thomas R. T. Orth, Wichita Falls | 653 | 878.32 |
| Oil Development Co., St. Louis, Mo. | 1,376 | 1,720.99 |
| J. D. Overby, Iowa Park | 1,688 | 2,111.03 |
| O'Neall Well No. One, Colorado | 1,613 | 1,247.82 |
| Orange Petroleum Co., Orange | 50,713 | 71,675.56 |
| Osage Development Co., Bartlesville, Okla. | 7,331 | 5,132.15 |
| Emile Offenbacher, Tulsa, Okla. | 55 | 67.15 |
| Emile Offenbacher, Tulsa, Okla. | 387 | 483.31 |
| Panhandle Refining Co., Wichita Falls | 373,812 | 467,266.17 |
| Phillips & Milam, Chelsea, Okla. | 275 | 344.50 |
| Peter Oils, Inc., Chicago | 4,180 | 4,130.80 |
| Producers Supply & Tool Co., Marietta, Ohio | 543 | 679.17 |
| Parkersburg Drilling Co., Cisco | 16,834 | 21,591.50 |
| Joseph W. Phillips, Wichita Falls | 1,592 | 1,991.19 |
| Petroleum Development Co., New York, N. Y. | 2,624 | 3,280.42 |
| H. H. Patton, Trustee, Fort Worth | 372 | 465.45 |
| The Pure Oil Co., Columbus, Ohio | 1,856,850 | 2,318,850.00 |
| Pender Producing Co., Denton | 15,162 | 18,983.21 |
| Prairie Oil & Gas Co., Independence, Kans., | 216,032 | 266,655.92 |
| Powers Production Co., Houston | 4,523 | 6,496.97 |
| Palmer & Chenault, Wichita Falls | 527 | 658.77 |
| Ed Prather Special, Houston | 992 | 1,240.03 |
| Plains Oil Corp., Amarillo | 1,678 | 1,573.13 |
| Preston Oil & Gas Co., Brownwood | 895 | 1,119.42 |
| Paraffine Oil Co., Houston | 13,161 | 18,322.82 |
| Philp Brothers, Beaumont | 1,547 | 2,184.93 |
| Parry Oil Co. of Texas, Inc., Fort Worth | 2,378 | 3,165.87 |
| P. & M. Oil Co., Shreveport, La. | 147 | 183.57 |
| Pomona Mutual Oil Syndicate, Pomona, Cal. | 5,226 | 6,976.77 |
| Pomona-Texas Oil Syndicate, Pomona, Cal. | 1,596 | 2,125.90 |
| B. E. Porter & Co., Wichita Falls | 532 | 665.79 |
| Porter & Barnard, Wichita Falls | 419 | 524.36 |
| Price, Russell & Co., Ranger | 16,529 | 20,661.79 |
| Pitzer & West, Breckenridge | 9,664 | 12,081.20 |
| M. Pois, Trustee, Wichita Falls | 716 | 895.33 |
| Pois & Britain, Trustees, Wichita Falls | 22,390 | 28,017.76 |
| Pois & Kruger, Trustees, Wichita Falls | 10,981 | 13,728.41 |
| Prescott-Phoenix Oil & Gas Co., Muskogee, Okla. | 302 | 454.41 |
| Pioneer Oil, Gas & Refining Co., Danville, Ill. | 2,591 | 3,323.64 |
| Primrose Oil Co., Sour Lake | 1,910 | 2,668.27 |
| M. E. Pivote, Sour Lake | 6,010 | 8,485.34 |
| Progressive Production Co., Kansas City, Mo. | 8,159 | 10,174.89 |
| Phillips Petroleum Co., Bartlesville, Okla. | 18,455 | 23,487.25 |
| Paggi Brothers Oil Co., Beaumont | 12,163 | 17,947.48 |
| Charles Paggi & Co., Beaumont | 2,925 | 4,196.79 |
| Parrish Lease, Wichita Falls | 343 | 429.86 |
| Pennok Oil Corp., Tulsa, Okla. | 20,437 | 27,159.53 |
| Pierce Petroleum Corp., New York, N. Y. | 4,756 | 5,877.13 |
| J. L. Powell, Wichita Falls | 590 | 738.66 |
| Parkins & Cullum, Wichita Falls | 51,808 | 65,378.91 |
| J. J. Perkins, Wichita Falls | 9,095 | 11,967.45 |
| Pennok Oil Co., Tulsa, Okla. | 12,957 | 17,325.00 |
| Pope & Wilson, Inc., Oklahoma City, Okla. | 10,427 | 13,963.00 |
| Prescott-Phoenix Oil & Gas Co., Wichita Falls | 2,153 | 3,230.94 |
| Phillips Oil Co., San Antonio | 6,033 | 5,429.90 |
| Petroleum Production Co., Wichita Falls | 113,834 | 142,293.46 |
| The Quakins Petroleum Co., Frankell | 5,513 | 6,891.35 |
| J. W. Quigg, Laredo | 7,724 | 5,986.61 |
| Quincy Oil Co., Chillicothe | 151 | 189.02 |
| Rapp, Huffman & Kline Oil Co., Electra | 236 | 295.03 |
| J. A. Rockwell & Co., Warren, Pa. | 8,146 | 10,403.70 |
| Rhodes & Highbers, Breckenridge | 3,171 | 4,218.06 |
| The Rosell Co., Inc., Breckenridge | 930 | 1,162.50 |
| Roberts & Hill, Wichita Falls | 6,377 | 8,348.41 |
| Rio Bravo Oil Co., Houston | 209,508 | 280,008.54 |
| J. P. Rayzor, Wichita Falls | 257 | 281.88 |
| Regna Oil Co., Saratoga | 5,222 | 6,391.56 |
| J. B. Robinson, Sour Lake | 1,372 | 1,928.19 |
| Rolyat Production Co., Houston | 2,790 | 3,940.77 |
| Rydal Oil Co., San Antonio | 5,237 | 3,665.05 |
| Ross & Slicker Oil Co., Fort Worth | 1,300 | 1,755.00 |
| Rydal Oil Co., San Antonio | 5,868 | 4,107.93 |
| Republic Production Co., Houston | 786,237 | 1,046,365.72 |
| R. W. Raney, Breckenridge | 1,938 | 2,586.00 |
| R. W. Raney (Bob Raney Oil Co.) | 10,505 | 13,731.00 |
| Henry Riley & Co., Breckenridge | 476 | 573.83 |
| Root & Rhodes, Eastland | 10,606 | 13,133.00 |
| Roeser & Pendleton, Inc., Breckenridge | 14,611 | 18,719.98 |
| The Reclamation Co., Fort Worth | 33,637 | 42,456.18 |
| The Reliance Oil Co., Houston | 710 | 974.54 |
| Red River Oil Co., Tulsa, Okla. | 17,966 | 22,496.30 |
| M. J. Rinhart, Oklahoma City, Okla. | 1,500 | 1,875.77 |
| J. A. Robertson, Santa Anna | 650 | 650.00 |
| Arthur D. Robinson, Dallas | 4,048 | 5,061.22 |
| Dwight M. Ross, Wichita Falls | 2,262 | 2,827.98 |
| Rubsam & Hunter, Wichita Falls | 1,497 | 1,872.34 |
| Henrietta C. Ramming, Wichita Falls | 4 | 3.15 |
| R. W. Ramming, Wichita Falls | 23 | 33.35 |
| W. F. Ramming, Wichita Falls | 45 | 56.27 |
| Ramming & Saunders, Wichita Falls | 6,516 | 8,482.54 |
| Ramming, Staley & Ramming, Wichita Falls | 985 | 1,269.73 |
| Rentex Oil Co., San Antonio | 5,093 | 6,470.07 |
| Richmond Garcia Oil Co., Laredo | 22,918 | 17,364.96 |
| Riner & Bailey, Wichita Falls | 71,009 | 91,813.37 |
| Rountree-Lee Oil Co., Rockdale | 2,575 | 2,704.32 |
| Rountree & Simpson, Rockdale | 441 | 463.04 |
| M. C. & Summerfields Roberts, Dallas | 1,230 | 1,537.67 |
| M. D. Rowe, Wichita Falls | 157 | 197.22 |
| C. M. Root, Eastland | ..... | ..... |
| Henry Riley, Breckenridge | 215 | 269.00 |
| Ruyle Farm & Oil Co., Wichita Falls | 15,405 | 20,448.47 |
| Ray Featherston Oil Co., Inc., Wichita Falls | 20,143 | 26,098.84 |
| Roxana Petroleum Corp., St. Louis, Mo. | 194,742 | 242,582.95 |
| Ross Segunda Oil Co., Laredo | 3,945 | 2,841.55 |
| Ross Amigos Oil Co., Laredo | 10,730 | 7,511.12 |
| Ryan Petroleum Corp., Bartlesville | 52,929 | 66,161.57 |
| Ray & Massie, Wichita Falls | 95,933 | 128,805.59 |
| Rockdale Oil Co., Inc., Minerva | 1,280 | 1,344.46 |
| Rowe Lease Synd. Kynerd No. 1, Colorado | 5,456 | 4,062.12 |
| Rycade Oil Corp., Houston | 161,381 | 190,298.78 |
| Russell, Sanderson Oil Co. No. 3, Fort Worth | 1,757 | 2,551.39 |
| Russell Frank Oil Co., Wichita Falls | 13 | 16.04 |
| The Rocky River Oil Co., Wichita Falls | 567 | 709.53 |
| A. H. Rowan, Corsicana | 16,296 | 20,371.01 |

Worthington Combination Air Compressor and Vacuum Pump. Used for experimental work in oil well operation. As vacuum pumps, they are used to test the quality and quantity of casing head gas from individual oil wells. As compressors, they are used for determining the pressure and amount of air required to put a desired pressure on an oil well for the purpose of increasing production. These small compressors are often used as boosters, that is, where the operator is using gas from the casing heads of one or two wells to operate his power engine, the gas produced frequently gets low and the compressor is employed to force more gas through the line. In addition, the compressor [which, as the illustration shows, is mounted on skids for easy transport] is used to compress air required for starting the main power engine.



Worthington Heavy Pattern Duplex Piston Pump [10 x 4½ x 10] in service as a gathering pump. This type is suitable as well for charging stills, cementing wells, pumping to loading racks and for general service about the refinery. It is designed for pressures up to 500 lbs. per sq. in.

# *Helping an industry answer the cry for "more oil"*

THE centralization of pump engineering service through the Worthington organization is of tremendous value to many industries where pumping problems are important.

Such are the twin industries of oil production and refining.

In every phase of the work of oil production — transport — refining — cracking — shipping — through the innumerable processes of fractional distillation and handling — down to the actual delivery of each fluid product and by-product to the consumer — Worthington pumps serve producers and public. The wide range of diversity in pumping equipment, which Worthington makes conveniently and economically available through a single source, is strikingly shown by the two pumps here illustrated — both Worthington, and both performing a vital service in helping the industry answer the world's compelling cry for oil—and still more oil!

In your industry—in your business—the Worthington organization can handle every pump requirement with equally efficient specialized service. Worthington engineers will gladly take up such questions with you or your engineers at any time.

WORTHINGTON PUMP AND MACHINERY CORPORATION
115 BROADWAY, NEW YORK CITY
BRANCH OFFICES IN 24 CITIES

# WORTHINGTON

4126-1

NATIONAL
TURNBUCKLE DERRICKS
NATIONAL

Their price is an Investment Their Quality is your Security

NATIONAL TURNBUCKLE DERRICK COMPANY
413 Wright Bldg., Tulsa, Oklahoma
Affiliated Companies:
Osage Rig, Reel and Lumber Association
Mahan, McCarty and Besse, contract rig builders.

NATIONAL
TURNBUCKLE DERRICKS
NATIONAL

| Name and Address— | Barrels | Value |
|---|---|---|
| Rio Grande Petroleum Corp., Houston | 13,192 | 9,234.67 |
| Ranger Gulf Corp., Tulsa, Okla. | 8,404 | 10,916.34 |
| Jacob Rosenberg, Tulsa, Okla. | 221 | 274.04 |
| S. J. Sirman, Cisco | 335 | 366.40 |
| Superior Oil Co., Superior, Wis. | 48 | 61.19 |
| George A. Smoot, Wichita Falls | 359 | 449.56 |
| J. A. Staley, Wichita Falls | 8,463 | 12,716.11 |
| Southern Petroleum Co., Houston | 14,363 | 20,284.77 |
| Shaw & Rathke, Wichita Falls | 30,932 | 41,966.56 |
| Southern States Lease & Prod. Co., Fort Worth | 4,132 | 5,156.40 |
| Standifird Brothers, Iowa Park | 1,491 | 1,631.36 |
| E. G. Senter, Jr., Fort Worth | 995 | 969.32 |
| E. G. Senter, Jr., Dallas | 866 | 1,317.52 |
| Schott Oil Co., Laredo | 10,632 | 7,442.97 |
| George R. Sutton, Prague, Okla. | 1,143 | 1,251.11 |
| Shemen Oil & Gas Co., Pittsburgh, Pa. | 103 | 129.03 |
| The Silurian Oil Co., St. Louis, Mo. | 4,278 | 5,818.41 |
| E. C. Stovall, Graham | 2,039 | 2,748.11 |
| Standard Oil Land & Leasing Co., Electra | 206 | 243.32 |
| I. P. Sessions, Rockdale | 1,139 | 1,196.69 |
| T. B. Slick et al, Oklahoma City, Okla. | 28,770 | 36,488.33 |
| Snowden & McSweeney Co., New York, N. Y. | 124,666 | 160,023.72 |
| St. Marys Oil & Gas Co., St. Marys, W. Va. | 6,946 | 8,682.24 |
| J. M. Shade, Sweetwater | 280 | 350.59 |
| H. L. Sturm, Ardmore, Okla. | 865 | 1,034.28 |
| Superior Oil Prod. Co., Lexington, Ky. | 2,743 | 3,428.72 |
| Staley & Wynne, Wichita Falls | 78,253 | 99,414.69 |
| J. I. Staley & Co., Wichita Falls | 13,425 | 16,781.33 |
| Staley, Langford & Wynne, Wichita Falls | 1,481 | 1,889.53 |
| Staley & Fritz, Wichita Falls | 3,589 | 4,563.23 |
| Swastika Oil Synd., Olney | 35,990 | 46,527.28 |
| E. L. Smith Oil Co., Inc., Mexia | 120,717 | 150,896.26 |
| Shannon & Weaver, Fort Worth | 4,373 | 4,278.37 |
| St. Louis Oil & Dev. Co., Wichita Falls | 813 | 1,006.73 |
| Sunshine Consolidated Oil Co., Wichita Falls | 33,910 | 41,189.91 |
| Sixty Six Oil Co., Wichita Falls | 21,397 | 26,746.40 |
| Stout Petroleum Co., Brownwood | 74 | 66.60 |
| Stephens Oil Co., Sour Lake | 740 | 1,012.24 |
| Simms Oil Co., Dallas | 606,530 | 756,871.35 |
| Staley Mashburn Oil Co., Wichita Falls | 436 | 545.45 |
| Sun Oil Co., Dallas | 794,944 | 1,024,083.42 |
| T. O. Shappell & Sons, Wichita Falls | 2,495 | 3,119.00 |
| Southwestern Petroleum Co., Tulsa, Okla. | 688 | 860.51 |
| Seybert Brothers & Barker, Mooringsport, La. | 5,807 | 7,849.41 |
| Shackelford Oil Co., Putnam | 6,705 | 9,087.42 |
| Shamrock Oil Co., Wichita Falls | 228,756 | 292,236.61 |
| Sipe Springs Oil Co., Sipe Springs | 73 | 91.58 |
| Somerset Oil Co., San Antonio | 1,773 | 1,785.39 |
| Southern Exploration Co., Houston | 20,508 | 30,624.42 |
| Sprawls, Harwell & Cook, Abilene | 1,220 | 1,525.47 |
| Stidham & Thrasher, Electra | 7,616 | 9,524.85 |
| F. W. Stone & Co., Eastland | 1,894 | 2,378.35 |
| Summerfield Oil Co., Tulsa, Okla. | 241 | 340.27 |
| Summerfield Oil Co., Tulsa, Okla. | 298 | 338.38 |
| John R. Saunders, Wichita Falls | 45 | 56.27 |
| Shaw & Lee, Wichita Falls | 3,046 | 3,046.02 |
| W. W. Silk, Wichita Falls | 467 | 654.32 |
| Sooner Oil Association, Wichita Falls | 1,523 | 1,903.93 |
| Stovall Oil & Gas Co., Moran | 4,701 | 5,729.05 |
| Strawn Petroleum Co., Denver, Colo. | 11,024 | 13,780.80 |
| E. G. Senter, Jr., Dallas | 516 | 482.08 |
| E. W. Skinner Oil Co., Saratoga | 7,202 | 9,999.61 |
| Somerset Crude Oil & Refining Co., San Antonio | 7,606 | 9,067.55 |
| C. D. Speed, Corsicana | 143 | 179.50 |
| R. O. Stull, Wichita Falls | 28 | 35.99 |
| Supreme Oil Co., Orange | 12,602 | 18,896.61 |
| Shappell Oil Co., Wichita Falls | 40,048 | 50,060.04 |
| C. W. Snider, Wichita Falls | 4,317 | 5,861.11 |
| W. A. Scarborough, Burkburnett | 1,479 | 2,468.83 |
| Stroube & Stroube, Corsicana | 71,259 | 89,074.93 |
| Sanders-Taylor Oil Co., Wichita Falls | 30,245 | 37,806.65 |
| Straus & Allen Oil Co., Wichita Falls | 3,332 | 4,165.69 |
| Charles Steele, Moran | 629 | 723.25 |
| South Vernon Oil Co., Vernon | 76,240 | 80,814.81 |
| Stratton Ridge Oil Co., Freeport | 55 | 68.75 |
| States Oil Corp., Eastland | 75,864 | 92,712.92 |
| Shamrock, Bridwell & Mayfield, Wichita Falls | 36,058 | 45,073.50 |
| George A. Schmidt, Wichita Falls | 2,787 | 3,484.02 |
| Saratoga Oil Co., Wichita Falls | 6,870 | 8,588.39 |
| Sammel West & McCandless, Robinson, Ill. | 1,567 | 1,958.81 |
| Sinclair Oil & Gas Co., Tulsa, Okla. | 83,247 | 104,318.64 |
| R. E. Schoolfield, Wichita Falls | 181 | 226.20 |
| Sinclair Oil & Gas Co., Houston | 106,235 | 148,004.21 |
| Sigler Oil Co., Wichita Falls | 3,368 | 3,761.91 |
| M. Sitrin, Tulsa, Okla. | 89 | 111.32 |
| Sam Sitrin, Tulsa, Okla. | 354 | 442.86 |
| Saratoga Oil Co., Wichita Falls | 10,290 | 12,863.44 |
| Joel Sink, Corsicana | 181 | 226.00 |
| Stella Oil Co., Beaumont | 8,162 | 11,428.40 |
| San Balt Petroleum Co., San Antonio | 8,496 | 9,375.13 |
| Skelly Oil Co., Tulsa, Okla. | 115,893 | 139,434.96 |
| San Bernard Oil Co., Beaumont | 5,867 | 8,255.84 |
| Shertzer Brothers, Dewey, Okla. | 5,552 | 6,941.12 |
| Swensondale Oil Co., Caddo | 38,804 | 50,591.85 |
| Sunray Oil Corp., New York, N. Y. | 116 | 145.16 |
| Stroube & Stroube, Corsicana | 21,715 | 27,144.52 |
| Texo Oil Co., Laredo | 1,721 | 1,204.78 |
| Texas Oil Producing Co., Dallas | 248 | 248.97 |
| The Texas Electric Co., Columbus, Ohio | 606 | 757.98 |
| Thebedeaux & Cavitt, Batson | 2,832 | 3,810.32 |
| Tidal Oil Co., Tulsa Okla. | 318,318 | 395,857.86 |
| Tidal Osage Oil Co., Tulsa, Okla. | 5,748 | 6,599.11 |
| The Texokana Producing Co., Coffeyville, Kans. | 11,000 | 13,865.00 |
| L. J. Tillery Oil Co., Beaumont | 13,455 | 19,838.64 |
| Texas Southern Oil & Dev. Co., San Antonio | 3,557 | 4,597.66 |
| Oscar Talley, Trustee, Burkburnett | 370 | 519.27 |
| C. A. Tucker, Dallas | 71,399 | 89,248.99 |
| Texas Oil Corp., Dallas | 262 | 327.65 |
| Tidal Western Oil Co., Tulsa, Okla. | 3,402 | 4,032.04 |
| Texas Consolidated Oil Corp., San Francisco, Cal. | 3,409 | 4,602.22 |
| Tucker & Fox, Dallas | 339,891 | 424,864.65 |
| Taylor-Sibley Syndicate, Dallas | 2,468 | 3,085.09 |
| Texa Plains Oil Co., Casper, Wyo. | 1,037 | 1,297.00 |
| Theis Oil Co., Sour Lake | 6,174 | 8,810.85 |
| Turner & Clayton, Inc., Eastland | 4,707 | 5,883.97 |
| The Tulsa Co., Wichita Falls | 798 | 998.06 |
| The Texas Exploration Co., Houston | 6,732 | 8,415.15 |
| Texas Development Co., Eastland | 6,608 | 7,269.66 |
| W. E. Timblin, Wichita Falls | 671 | 861.20 |
| Texas Fidelity Oil Corp., Louisville, Ky. | 22,704 | 28,824.00 |
| Texas Plains Syndicate, Chicago, Ill. | 464 | 580.00 |
| H. C. Thorman et al, San Antonio | 2,827 | 2,544.90 |
| Texas Oil & Refining Co., Wichita Falls | 1,726 | 2,158.21 |
| Texas Petroleum Development Co., Cameron | 8,170 | 8,578.53 |
| W. H. Thaxton, Austin | 328 | 410.40 |
| R. V. Tidwell, Trustee, Graham | 1,551 | 1,939.15 |
| Johnnie Tolbert Oil Co., Midlothian | 3,637 | 4,546.27 |
| Triangle Oil Co., Wichita Falls | 1,044 | 1,566.60 |
| A. G. Trumbo, Muskogee, Okla. | 36 | 47.81 |
| Tyson Oil Co., Sour Lake | 1,562 | 2,194.25 |
| Texota Petroleum Co., Electra | 750 | 938.51 |
| R. V. Tidwell, Receiver for M. R. Hemphill, Graham | 3,365 | 4,432.89 |
| R. V. Tidwell, Tr. Kissinger Lease, Graham | 3,302 | 4,414.96 |
| Toronto Grey Oil Co., Somerset | 782 | 1,246.01 |
| Toronto Grey Oil Co., Somerset | 831 | 1,344.34 |
| Toronto Grey Oil Co., Somerset | 608 | 798.42 |
| Two Republic Oil & Gas Co., Laredo | 10,301 | 7,210.71 |
| Texhoma Oil & Ref. Co., Wichita Falls | 470,402 | 587,525.00 |
| Mack Thomas, Wichita Falls | 311 | 398.31 |
| The Texas Buffalo Co., San Antonio | 1,000 | 1,153.90 |
| Thompson Oil Corp., Ranger | 8,904 | 11,936.00 |
| Texas Pacific Coal & Oil Co., Thurber | 218,780 | 288,445.64 |
| Trinity Production Co., Dallas | 1,109 | 1,379.41 |
| Transcontinental Oil Co., Pittsburgh, Pa. | 9,296 | 11,628.97 |
| J. V. Thompson, Trustee, Ranger | 8,232 | 11,002.99 |
| The Texas Co., Houston | 2,237,132 | 2,950,260.67 |
| Thompson & McKinnis, Ranger | 1,556 | 2,077.79 |
| Three Rivers Oil Co., San Antonio | 9,138 | 8,489.67 |
| Thrall Oil Co., Beaumont | 917 | 1,147.26 |
| T. & P. Pipe Line Co., Wichita Falls | 4,554 | 5,681.31 |
| Tucker & Langford, Wichita Falls | 44,545 | 55,645.57 |
| United Oil & Fuel Co., Wilmington, Del. | 1,642 | 2,327.99 |

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## —*It's Dangerous and Unnecessary*

In buying a "Mild Plow" line, it's very easy for you to get an inferior grade by mistake.

*If you buy a*

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you'll detect this mistake instantly and just as easily as tho it were the wrong size.

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| Blackwell | Okmulgee | El Dorado | Electra |
| | Wichita Falls | Cromwell | |

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**To ascertain the actual financial condition and earnings for**

- **(a) Proprietors (partners or stockholders);**
- **(b) Executives (managers, officers or directors);**
- **(c) Bankers or investors (for purchase of securities);**
- **(d) Bankers or creditors (considering loans or the discounting of promissory notes);**
- **(e) Ascertain whether fraud or irregularity exists.**

**The results secured by an audit are *required* and *used* for the following purposes:**

- **(a) For stock or bond holders who desire at regular intervals a condensed financial statement of the business and of the net results of operations.**
- **(b) For proposed sale or incorporation, additional capital, change in management, or on death of a partner or large stockholder.**
- **(c) To submit statements in detail to bankers or note brokers as a basis for credit.**
- **(d) To submit certified statements to mercantile agencies or others calling for periodical reports.**
- **(e) To ascertain the true causes for fluctuations of Profit or Expense.**
- **(f) To state the facts in disputes or litigation or investigate the causes of losses for creditors or stockholders.**
- **(g) *As a basis for the preparation of Federal Tax returns.***

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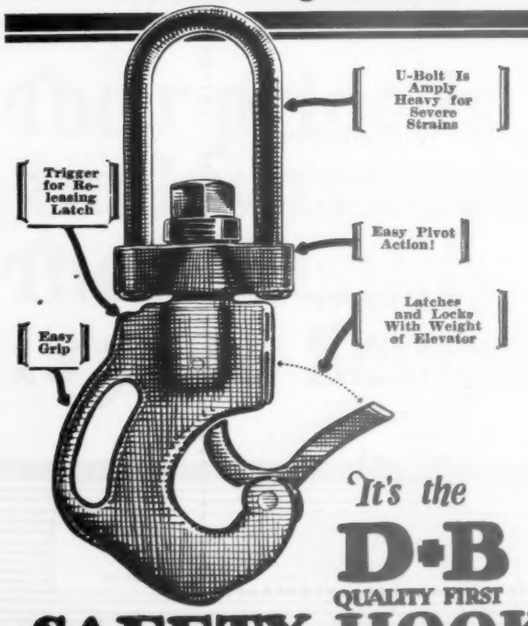
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| Name and Address— | Barrels | Value |
|---|---|---|
| Upham Gas Co. of Texas, Mineral Wells | 3,139 | 4,111.90 |
| United North & South Oil Co., Luling | 2,188,246 | 2,085,105.32 |
| Union Oil Co. of Nevada, Graham | 4,486 | 5,607.50 |
| Underwood Drilling Co., Wichita Falls | 3,013 | 3,766.90 |
| Underwood Drilling Co., Wichita Falls | 7,289 | 9,111.77 |
| Underwood Drilling Co., Wichita Falls | 8,927 | 11,114.07 |
| Underwood Drilling Co., Wichita Falls | 33,722 | 40,052.99 |
| U. S. Texas Oil Corp., Fort Worth | 25,016 | 31,271.99 |
| The United Production Co., Wichita Falls | 11,002 | 13,753.48 |
| United Central Oil Corp., Houston | 56,141 | 70,176.75 |
| Unity Oil Co., Beaumont | 15,927 | 22,298.70 |
| Vat Oil & Gas Co., Byers | 110 | 138.42 |
| Van Cleave Oil Trust, Wichita Falls | 2,410 | 3,012.74 |
| Virginia Oil & Refining Co., St. Louis, Mo. | 3,608 | 5,146.59 |
| Val Verde Oil Co., Del Rio | 3,215 | 4,127.64 |
| Varner Oil Co., Houston | 41,054 | 44,902.85 |
| Virginia Oil Association, Fort Worth | 5,071 | 6,339.45 |
| The Owen A. Wood, Fort Worth | 9,615 | 12,206.41 |
| Webb Oil Co., Humble | 4,288 | 6,010.32 |
| W. W. Overby, Wichita Falls | 911 | 1,139.22 |
| Waite Phillips Co., Tulsa, Okla. | 12,281 | 15,235.96 |
| Weldom Oil Co., Saratoga | 10,775 | 11,706.22 |
| Wonder Oil Co., Inc., Houston | 1,685 | 2,991.95 |
| J. A. Watkins, Wichita Falls | 463 | 579.23 |
| Howard Weber, Bartlesville, Okla. | 5,164 | 6,455.46 |
| Howard Weber, Bartlesville, Okla. | 816 | 1,020.70 |
| James & White, Wichita Falls | 2,362 | 3,465.27 |
| White & Duncan, Wichita Falls | 103 | 129.27 |
| Annie L. Wicher, Wichita Falls | 4,758 | 5,948.33 |
| Witcher & Michel, Wichita Falls | 685 | 857.16 |
| A. T. Wolf, Wichita Falls | 1,382 | 1,769.52 |
| Wheelock & Collins, Corsicana | 197,394 | 184,343.36 |
| Wilmot Farm Oil Co., Wichita Falls | 21,138 | 26,752.73 |
| Witherspoon Oil Co., San Antonio | 77,794 | 77,410.09 |
| Wilson Drilling Co., Wichita Falls | 8,258 | 11,189.15 |
| G. C. Wood and others, Wichita Falls | 18,174 | 23,156.50 |
| Lee Watson, Brownwood | 80 | 78.70 |
| Woodrow Lee Trust, Wichita Falls | 903 | 1,323.54 |
| Wheley Mineral & Realty Trust, Fort Worth | 7,554 | 10,356.82 |
| Watkins Pool Oil Co., Dallas | 506 | 687.31 |
| West Production Co., Houston | 2,679 | 3,742.59 |
| Williams & Hoffmier, Dallas | 4,569 | 6,120.92 |
| Westervelt-Noble and others, Oklahoma City, Okla. | 8,471 | 10,588.93 |
| Dr. Charles William Wallace, Wichita Falls | 75,974 | 98,682.12 |
| Wilson & Meal, Corsicana | 5,641 | 7,052.38 |
| F. H. Wickett, Shreveport, La. | 5,085 | 3,491.46 |
| Mrs. Bessie M. West, Houston | 2,831 | 4,136.46 |
| Annie Bearden Lease, Lee Wilson and others, Wichita Falls | 39,007 | 48,758.84 |
| Why Not Oil Co., Mexia | 92,870 | 116,088.61 |
| Western Oil Corp., Tulsa, Okla. | 2,625 | 3,281.32 |
| Wise & Jackson, Sapulpa | 6,381 | 7,999.25 |
| Winnipeg Oil Co., Wichita Falls | 63,933 | 79,916.23 |
| Wherry & Rambo, Beaumont | 88 | 111.24 |
| Wherry & Laughman, Beaumont | 748 | 1,057.30 |
| L. A. Warren and others, Cisco | 5,403 | 6,753.66 |
| Watkins Pool Oil Co., Dallas | 401 | 526.43 |
| West Texas Refining & Development Co., Oklahoma City, Okla. | 24,489 | 18,366.75 |
| Wilson Drilling Co., Wichita Falls | 5,736 | 7,522.89 |
| Wichita Petroleum Co., Tulsa, Okla. | 8,217 | 10,194.66 |
| F. E. Wallace, Corsicana | 885 | 1,106.36 |
| Wells & Guiberson, Vernon | 29,401 | 36,751.97 |
| B. S. Walker, Breckenridge | 2,072 | 2,590.55 |
| B. S. Walker, Breckenridge | 27,403 | 41,642.22 |
| W. G. Welles, Trustee, Nacogdoches | 582 | 1,091.25 |
| Westheimer & Daube and others, Ardmore, Okla. | 393 | 354.49 |
| Wheatley Oil Co., San Antonio | 105,741 | 81,949.99 |
| Wittmer Property, Trustees, Pittsburgh, Pa. | 13,103 | 14,409.71 |
| Mrs. Fay R. Ward, Dallas | 134 | 121.15 |
| R. M. Waggoner Special, Wichita Falls | 5,324 | 6,655.96 |
| Woodburn Oil Corp., Dallas | 24,651 | 31,319.61 |
| Walker-Caldwell Production Co., Breckenridge | 7,229 | 9,722.39 |
| Western Oil Fields Corp., Denver, Colo. | 137,137 | 166,686.15 |
| Wilson-Broach Co., Beaumont | 18,938 | 26,658.70 |
| Burt Williams, Wichita Falls | 1,955 | 2,305.44 |
| S. C. Yingling, Winfield, Kans. | 540 | 540.00 |
| Yuba Oil Co., Nacogdoches | 811 | 811.30 |
| Yount-Lee Oil Co., Beaumont | 101,356 | 141,366.04 |
| M. T. Yates, Wichita Falls | 1,592 | 1,991.13 |
| Zadie Belle Oil Co., Mineral Wells | 1,599 | 1,999.07 |
| Total | 31,194,205 | $38,213,920.77 |

## CANADIAN FIELDS

(Continued from Page 48)

been tied up for some time owing to a dispute with the contractors.

R. W. Jones, consulting engineer of Edmonton, has been appointed to the directorate of British Petroleums, Ltd.

In southern Alberta, Canadian Oil & Refining Co. (Rogers-Imperial) Section 29-1-11w4 is getting ready to resume work with Jack Reynolds as drilling contractor. This test, which developed around 23,000,000 feet of gas at the 2,500-foot horizon, is being deepened for oil. A string of 4½-inch casing will be set on the cap rock now at the bottom of the well, which is believed to immediately overlie the Ellis sands.

West of Coutts, L. R. Olsen and associates of Coutts are planning a new test in the Red Coulee area. This area was tested by Imperial Oil, Ltd. several years ago. The Imperial Red Coulee test on Section 5-1-16w4 was drilled to about 2,500 feet. It got a show of oil but no commercial production, and the test, and the field was accordingly abandoned. The Olsen Syndicate will drill about 1 miles west of Coutts on the same structure.

In the Many Island Lake Field, northeast of Medicine Hat, Community Oil Wells, Ltd., Section 19-14-1w4, will resume drilling about April 1, the work being in charge of Frank H. Stover.

In the Foremost district, southern Alberta, it is reported that the Canadian Western Natural Gas Co. will this season drill four additional tests for gas. The International Securities, Ltd. of New York, which recently acquired control of the Canadian Western is reported to be securing control of the Redcliffe gas field, now owned by the Dominion Glass Co.

A syndicate financed by Claresholm, Alberta, interests is reported to have a fair show of oil in a test on Section 8-24-2w, in the Kevin-Sunburst Feld. The showing is in the Ellis sands at 1,458 feet. It will be put on the pump to determine whether or not it is a producer. As soon as the test is completed, the rig will be moved to a new location.

### Tar Sand Project

The Anglo-Canadian Colleries and Refineries, Ltd. of Edmonton has ordered machinery for an extracting plant to operate this season on its holdings in the McMurray tar sand area, on the Athabaska. The company which was organized last year by Edmonton interests has the Canadian rights on a German process of extracting bitumen from the sands. The process has been in use in Germany for some time, and experimental work there with tar sand samples from the McMurray area is reported to have produced satisfactory results.

In the Ontario fields, drilling operations have been impeded by bad roads. In the Tilbury Field, the the Union Natural Gas Co. has spudded in a new test for gas in the Tilbury sand, the location being the Barr farm, in the southern part of the field. The Dover Field, Kent County, is under water, and the new deep test there has been held up as a result. In Lambton County the High Pressure Oil & Gas Co. is reported to be planning to resume work on its No. 2 test at Rock Glen, near Arkona. This test at last reports was a considerable depth in the Trenton limestone without a show, a previous test having been abandoned owing to drilling difficulties after getting to the top of the Trenton.

If you and "the refiner across the road" were purchasing the same type of crude oil and his skimming plant was recovering twice as much gasoline per barrel as yours, you would certainly sit up and take notice In fact, if you didn't, you would soon be out of the running

The same holds true of the Dubbs Cracking Process as compared with any other and it holds true of the refiner who has the Dubbs Process compared with the refiner who has none or even has some other process

It is a pleasure for us to know that every refiner who has installed the Dubbs Cracking Process is getting far greater value than we promised and the licensee of the process is even happier than we

We knew it, but it is a pleasant surprise to him

Universal Oil Products Company
Owners of the Dubbs Process
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In boiler settings, baffles and in still construction, ADAMANT resists the cutting action of flame and allows for expansion and contraction due to temperature changes.

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**For years a need existed for an extension lower valve that should be built right and that would *stay* right.**

**The HOUGH Extension Lower Valve supplied the answer to this problem and it was put on the market only after exhaustive and exacting tests proved its quality. Fitted with *oversize* STEELEX Ball and Seat; will fit any make of working barrel; construction is simple and self-contained. For full particulars ask your dealer or write us for folder.**

THE CHARLES N. HOUGH MFG. CO.
Franklin, Penna.

*"Products that cut down your underground overhead"*


## MEXICAN FIELDS

(Continued from Page 38)

respectively; No. 167 is spudded; No. 168 is in shells at 1,160 feet. Mexican Sinclair Petroleum Corp.'s No. 94, Lot 3, is in shale at 230 feet; No. 107 is in the Tamasopa at 1,976 feet, in Lot 2 No. 104 is in the San Felipe at 1,415 feet. Mexican Atlas Petroleum Corp.'s No. 14, Lot 1 is drilling in the San Felipe at 1,690 feet. Mexican Gulf Oil Co.'s No. 71, Lot 1, is in the same formation at 1,600 feet. New England Fuel Oil Co.'s No. 4, Lot 3, cemented 8-inch in shells at 1,194 feet, and No. 6, same lot, has done the same at 1,192 feet. Transcontinental Petroleum Co.'s operations in Lot 4 follow: No. 113 cemented 10-inch in the San Felipe at 1,315 feet; No. 138 is in gray lime at 1,720 feet; No. 150 is in lime at 1,965 feet; No. 152 is in lime with a showing at 1,890 feet; No. 157 is in lime at 2,145 feet; No. 158 is in gray shale at 560 feet; No. 164 is in lime at 1,825 feet; No. 165 is running 10-inch in the San Felipe at 1,180 feet; No. 161 is in lime at 1,810 feet, and in Lot 5, No. 179 is in gray shale at 750 feet. In Paciencia, just above Cacalilao, No. 8 is in lime at 2,125 feet.

### Panuco

In the older sectors of the Panuco Field drilling operations at the week-end are best reflected by the following: East Coast Oil Co.'s No. 436 Ingenio is in gray shale at 470 feet, and No. 446, same, is in gray shale with shell traces at 1,310 feet. Ita Mex Oil Co.'s No. 1, Lot 14 Lomas y Llanos is drilling in lime shells at 1,650 feet. Mexican Atlas Petroleum Corp.'s No. 6 Palangana is in gray shale at 1,000 feet. Sol Oil Co.'s No. 3 Tamisol, (Federal zone), is spudding, and No. 4, same, cemented 8-inch in gray lime at 1,630 feet. The Texas Co.'s No. 6, Lot 17 Isleta, is testing for possible production at 2,116 feet, where it might have a small well. In Lomas y Llanos, The Texas Co.'s No. 10, Lot 16, has a 3-inch drill stem stuck in the hole at 2,295 feet, which it is trying to clear, with the test showing for 50 bbls. Transcontinental Petroleum Co.'s No. 19 Barbarena cemented 10-inch in gray lime at 1,180 feet.

### South Fields

In the south fields, Huasteca Petroleum Co., (Mexican Petroleum), has been practically marking time the past week with two tests ready to come in with any screw. Some labor troubles gave the company pause, but this matter has now been adjusted. One of the tests that should be in is No. 54-A Cerro Azul, which is again making hole in limey gray shale at 1,790 feet; No. 55 is in gray shale at 1,645 feet; Nos. 56, 58 and 59 have made no hole since the last report. The other test expected is No. 34 Tierra Blanca which is drilling in gray lime at 2,271 feet; No. 36 is in brown lime at 2,293 feet. In Chapopote Nunez, No. 10 is in shale at 505 feet. Up in Tres Hermanos, No. 9 is in gray shale at 500 feet, and No. 1 Granadilla is in gray shale at 3,697 feet.

Mexican Eagle Oil Co., Ltd., No. 24, Lot 132 Amatlan is in brown lime at 4,844 feet; No. 44, Lot 135, is in gray shale at 1,820 feet; No. 6, Lot 161 Chinampa is waiting for rotary at 1,245 feet; No. 20 Cerro Veijo is in basalt at 1,243 feet. South of the Tuxpam River, Mexican Eagle's No. 2 Mecanapec is in hard shale with shells at 2,750 feet, and No. 1, Lot 2 Escobal is fishing parted 12½-inch at 1,521 feet. Cortez Oil Corp.'s No. 8 Aguada is in gray shale at 3,500 feet.

### At Corcovado

The race for the pay in Corcovado continues without abatement buoyed by the hope that is eternal and fortified by the fact that at least one well of worth has been completed there. Agwi Companies, No. 2, Lot G, is in the white lime at 2,250 feet. Cosmos Oil Co.'s operations in G are as follows: No. 5 is rigging; No. 7 is in gray shale at 450 feet; No. 9 is waiting for cement to set around 8-inch at 1,065 feet; No. 14 is in gray shale at 940 feet; Nos. 20, 30 and 31 are near the spudding in stage. La Corona Petroleum Co.'s No. 7, Lot 6 cemented 8-inch in the San Felipe at 1,470 feet; No. 8, same lot, is rigging, and No. 2, Lot 11 cemented 8-inch in the San Felipe at 1,230 feet. Intermex Oil Co.'s No. 2, Lot 4, is drilling in the Tamasopa at 3,085 feet, too deep for any hope. Leonard and others' No. 1 Garruche-Corcovado is drilling in the San Felipe at 1,635 feet. Mexican Sinclair Petroleum Corp.'s No. 2 Garruche-Corcovado is in blue shale at 800 feet. Mexican Gulf Oil Co.'s operations in Lot 4 follow: No. 8 is in San Felipe and shales at 1,325 feet; No. 14 is in gray lime at 2,316 feet; No. 19 is in gray and brown lime at 2,012 feet, and Nos. 21 and 22 have each cemented 8-inch in gray lime at 1,161 and 1,277 feet respectively. In the Chapacao adjoining the Corcovado line, Gulf's No. 1 is shell at 1,171 feet. Other tests there are unchanged since the last report.

### Miscellaneous Northern

In the Ebano Field, Mexican Petroleum Co.'s No. 39 La Dicha is fishing lost tools at 2,038 feet; No. 54 is in gray lime at 1,870 feet. In Chapacao, No. 10 is rigging; No. 14 is in gray lime at 1,525 feet; No. 18 is in the same formation at 1,925 feet, and No. 19 is in brown lime at 2,195 feet. In San Pedro its No. 3 is in blue shale at 1,150 feet.

In the Topila district, Credito Petrolero, S. A., No. 15, Lot 10 Pac. de Aguacate cemented 8-inch in the San Felipe at 1,553 feet. Cortez Oil Corp.'s No. 1, Lot 8 Cahuayotes is in white lime at 3,440 feet. Mexican Oil Co.'s No. 5, Lot 19 Tamboyoche has shut down at 200 feet.

In the Marland Field, Cia. Petrolera Franco Espanola, No. 22 Limon, is in lime, with a showing of sulphur water at 2,460 feet; No. 23 is spudding; No. 24 had its derrick burned at 1,270 feet, and No. 25 is in hard lime and shale at 540 feet.

On its right-of-way in Chapacao, National Lines' No. 7 is in the Tamasopa at 2,214 feet; No. 9 is in the same formation at 2,332 feet; No. 11 is gray lime at 1,490 feet, while No. 12 is a derrick.

In Tortuga, Morrison and others' No.

## WELL ON RIGHT OF WAY

Derrick of the National Lines along its Chapacao right of way on the main line of the San Luis division. The Mexican Government makes its railways hold to the 30-meter from-the-line law hence the closeness of the derrick to the track. Passengers have to keep their heads and arms in when passing on a train. Until the 10,000-bbl. well now reported, the National Lines had nothing but dry holes on its right of way. Mexican Petroleum, in offseting, has had one big well. The National Lines is drilling for fuel, which it now purchases from American concerns. Tank cars have been dispatched to the new well to distribute the oil over the system.

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The clutch is 24″ friction type. This arrangement makes the engine easier to start, and prevents the belt climing the clutch shoes or burning from heat developed on the pulley by the friction shoes.

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R E S U L T S


9 is drilling in the San Felipe at 1,975 feet.

At Laguna de la Puerta Modelo Vincent; No. 1 Casa Piedra is changing over to rotary at 765 feet.

### Personal Mention

Benjamin Briscoe, who was prominently identified with the automobile industry in the United States for many years, now president of the Nations Refining Co., Montreal, Canada; O. S. Knisely, of the Achor Refining Co., of the same place, and Joseph Elie, formerly an alderman in the city in question, but now interested in marketing petroleum, were quietly inspecting the fields in the Tampico embayment of Mexico a few days ago.

F. W. Leovy, of the Gulf Refining interests, headquarters in Pittsburgh, Pa., with several other officials of that company are in Mexico inspecting the properties of the Mexican Gulf Oil Co., the Mexican subsidiary of the Gulf interests.

## EAST CENTRAL TEXAS

(Continued from Page 46)

Texas Co.'s No. 4 Watson, sand at 2,970-90 feet, 500 bbls. on the swab.

Republic Production Co.'s No. 5 Allmond, Wortham Townsite, 200 bbls. from sand at 2,955-85 feet.

Walsh and others' No. 1 Berry, Wortham Townsite, sand at 3,007-14 feet, 100 bbls.

Humphreys Boyd Oil Co.'s No. 2-B W. D. Wilson, location abandoned; No. 3-B Wilson, sand at 2,978-3,017 feet, 40 bbls.; No. 4-B Wilson, sand at 2,989-3,025 feet, 60 bbls.

The Limestone County end of the field which was left to the last because the ownership of the producing leases lay in the hands of a few companies that were in no hurry to develop it is now the most active part of the field.

The Humphreys Boyd Oil Co.'s No. 1-B W. D. Wilson was a 60-bbl. pumper from sand at 2,974-3,018 feet.

The Humphreys Boyd Oil Co.'s No. 9 N. B. Boyd, started at 200 bbls from sand at 2,980-3,008 feet; No. 11 Boyd, 125 bbls. at 3,000-3,010 feet; No. 16 Boyd, 120 bbls. at 3,010-17 feet.

Humphreys Boyd Oil Co.'s No. 12 Ferguson, a location has been abandoned; No. 13 Ferguson, 175 bbls. at 2,995-3,015 feet; No. 14 Ferguson, 150 bbls. at 3,005-15 feet; No. 15 Ferguson, 175 bbls. at 2,990-3,015 feet; Nos. 16 and 17, locations abandoned.

Magnolia Petroleum Co.'s No. 21 N. B. Boyd, made a 100-bbl. well from sand at 3,012-19 feet.

The Rains Creek Oil Co. got a 1,000,000-foot gasser on the J. W. Pate farm from sand at 2,960-71 feet.

The Humphreys Boyd Oil Co.'s test on the G. Pierce farm, McNulty survey was a failure and was abandoned as dry at 3,167 feet.

The Pure Oil Co.'s No. 1 Webster Jackson survey, was shut down at 3,073 feet with no showing.

Farrish, Watts and Collins have started drilling No. 7 Jackson, Wortham survey. The Humble Oil & Refining Co. is drilling No. 4-D E. D. Crouch, Longbrotham survey. The Magnolia Petroleum Co. has started drilling No. 26 N. B. Boyd. No. 25 bailed dry at 3,022 and was shut down for orders. The Humphreys Boyd Oil Co. will drill No. 23-B N. B. Boyd

The Magnolia Petroleum Co. is drilling No. 1 J. W. Strand, Varola survey.

The Bains Creek Oil Co.'s No. 1 Arnett, Varola survey is drilling.

### Henderson County

In Henderson County, R. R. Penn and others have derrick up on the G. E. Murphy farm, Gardner survey.

In Hunt County, the Gulf Production Co. and Atlantic Oil Producing Co. abandoned No. 1 Meadows, J. Levins survey, at 3,512 feet. The Marland Oil Co.'s No. 1 fee, Hamilton survey, was drilling below 2,915 feet.

### Navarro County

In Navarro County, the McMan Oil Co.'s deep test on the Chapman farm, Anderson survey, was drilling in gumbo and shale below 4,460 feet.

The Humble Oil & Refining Co.'s No. 30 Humphreys on the Smith survey was junked and abandoned at 1,506 feet.

The Tidal Oil Co. found a 3,000,000-foot gas production in No. 3 J. R. Bush, at a total depth of 1,250 feet.

The Texas Co.'s No. 13 Fleming, is a 30-bbl. well at 2,900-36 feet.

Garland Kent has abandoned No. 2 Berry on the Berry survey at 1,650 feet.

The Humble Oil & Refining Co.'s No. 8 Kent, started at 40 bbls. from a sand at 1,590-1,644 feet.

The Pure Oil Co.'s No. 11 Kent made a 20-bbl. well at 1,535 feet, total depth, 1,645 feet.

The Pure Oil Co.'s No. 5 English, Boren survey, was abandoned as dry at 3,300 feet.

## CALIFORNIA FIELDS

(Continued from Page 46)

were carried down deeper into the sand and this additional penetration resulted in the completion of two big wells. The Associated will derive a greater benefit than any of the other operators because of the position of its Lloyd lease on the structure. The company has three drillers on this property at present No. 15 at 1,650 feet, No. 16 at 4,108 feet, No. 18 at 3,347 feet and rigs up for Nos. 21 and 22. The General Petroleum is drilling ahead in No. 6 Notten at 3,325 feet and is building rigs for No. 8 Notten and No. 4-A Barnard.

The Shell has transferred several of its crack crews into this field from other areas and contemplates the drilling of several new holes immediately. The company has just spudded in No. 3 Edison and has started constructing the rig for No. 4. Six holes are being drilled on the Gosnell lease and two of them should be on production shortly. No. 6 is rotating at 4,320 feet, No. 7 standing cemented at 4,821 feet and No. 8 testing at 4,920 feet. No. 9 is being cleaned out at 4,221 feet, while Nos. 10 and 11 are just getting under way, the former at 406 feet and the latter at 1,192 feet. On the Taylor lease the Shell recently finished a 1,200-bbl. well in No. 7 and immediately spudded in No. 8, which at present is going ahead at 2,365 feet.

### Miscellaneous Wildcats

The Associated Oil Co. has reached a depth of 3,014 feet in No. 101 Fox Hills in the Beverly Hills area, at which depth a string of 11-inch has been cemented. The Marland Oil Co. has just passed the 4,015-foot level but has yet to find its first showing at Davidson City, a wildcat, which has very little merit. The Calwin Oil Co. reported another slight showing in its Eagle Rock wildcat at 5,120 feet, but this test is given very little chance for production. The Manhattan-Pacific Oil Co. has passed the 4,010-foot level at Hermosa Beach and is going ahead in a hard sandy shale. The Shell spudded in No. 1 Stubbs, its wildcat near La Mirada, and is at present rotating at 592 feet. This hole is about a mile east of the Associated's No. 2 McNally, a dry hole at 6,018 feet. The Larchmont Investment Co. has taken over the Scientific Oil Co.'s old hole, drilled to 4,214 feet, and will carry it down to at least 5,000 feet. The Tweedy Homesite Co. has taken over the holdings of the Magnolia Petroleum Syndicate at Maywood and will resume drilling on this 2,142-foot hole immediately.

The Associated is drilling ahead in its Newhall wildcat in a sandy shale at 3,745 feet but has not yet found any encouragement. The Union is making very slow progress in its Saugus test a few miles away and, although these two holes were started at practically the same time, the Union is only down 1,715 feet. The Associated, however, has not had any of the delays suffered by the Union. The Pan American has not yet hauled in material for its Palms wildcat. The Standard has finished rigging up No. 1 Irvine at Paulerino and should spud in shortly. No. 1 Hadley near Rivera has also been rigged up but no hole has been made to date. No. 1 Newlin of the Union at Ocean Park Heights is, perhaps, one of the most important wildcats being drilled in the State at present. This hole is down 1,825 feet and,

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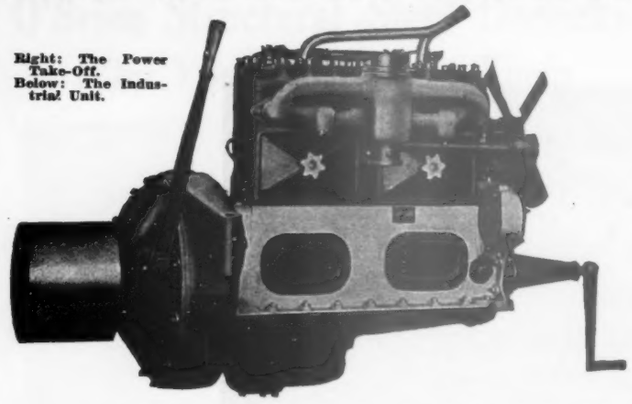
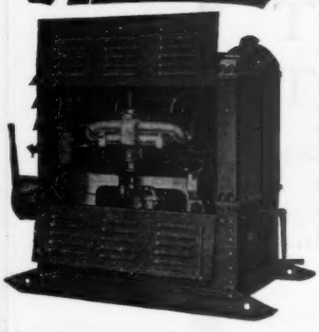


Right: The Power Take-Off.
Below: The Industrial Unit.



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although it is just getting under way, it is being watched very closely. A test was put down about a mile away from this location several years ago and carried down to around 4,000 feet, at which depth it was abandoned. The San Pedro-Point Fermin Oil Co., drilling at the base of a cliff on the ocean front at San Pedro, has reached a depth of 3,750 feet but has not yet secured any showings of importance.

**San Emidio Wildcat**

The Standard is drilling ahead at 4,125 feet in its No. 1 on Kern County Lease No. 3, a wildcat in the San Emidio district, but notwithstanding the depth reached, there have been no showings of any kind. No. 1 on Kern County Lease No. 4 also in the San Emidio area, is equally as dry, although this hole is only down 2,220 feet. The Chanslor-Canfield Midway Oil Co. finished cleaning out the Sentinel Oil Co.'s old Delano wildcat and began drilling during the early part of the week. At present the bit is going ahead at 2,900 feet, the prevailing formation being a sticky blue shale.

The Standard has practically abandoned hope of securing production in its Lost Hills wildcat, which has reached a depth of 5,625 feet. A blue shale was picked up at 4,367 feet and continued with but a few breaks until the 5,510-foot level was reached, at which depth the formation changed to a hard gray sand. The Union cored a gray sand streaked with shale in its Rio Bravo wildcat at 5,690 feet. This test was a long shot on the part of the Union and, while the company geologists held out only a small chance of securing commercial production, the company found it advantageous to drill because of the large amount of acreage which had been tied up for several years. Several dry holes had previously been drilled in this area but they were too far away to have a direct bearing on the Union's holdings.

**South of Bakersfield**

On the Kern River Bluffs, south of Bakersfield, the St. Helens is working steadily on its wildcat, Section 14-29-28, and has reached a depth of 4,200 feet. The Central has suspended operations on Section 36-28-28 at 2,499 feet and it does not look as though work will be resumed again unless something develops nearby. On the Kern Riven front, Section 16-28-27, the Marland has reached a depth of 1,755 feet in No. 3. The Shell's No. 1 Mountain View, a wildcat in the Weed Patch area, has reached a depth of 4,157 feet and although the hole has been cored at frequent intervals, no showings of any consequence have been noted. The Main Oil Co. has just about finished drilling its Wasco wildcat as the hole is nearing the 5,000-foot level designated as the maximum depth at which production would be secured. The company reports 4,957 feet of hole and the formation a hard brown shale. The only real encouragement to date was several good gas showings, although one or two small oil colors were noted. The usual preabandonment tests will probably be started within the next few weeks.

The Snowolene Oil Co., it is reported, is preparing to resume operations on its Jacalitos Dome wildcat, Section 22-21-15 near Coalinga. Drilling was suspended some time ago at 4,025 feet because of financial difficulties. The Marland has some material on ground but has not started rig construction for the test proposed on Section 26-21-15. The General Petroleum has succeeded in cleaning out No. 1 Oschener, its Kettleman Hills wildcat, to 5,240 feet and will attempt to sidetrack approximately 950 feet of 6¼-inch casing remaining in the hole. The Marland's test on Section 12-22-17 is standing cemented at 4,947 feet. The Hub Oil Co. will make a production test of its shallow Tulare County wildcat, No. 1 Andrews at 776 feet. The company's test on Section 13-24-27 is drilling ahead in a blue shale at 1,300 feet. E. J. Miley's No. 1 Smith in San Luis Obispo County, Section 22-31-22 showed a small amount of gas at 1,545 feet.

**Field Operations**

Oil field operations reported to the State Oil and Gas Supervisor show 40 new wells started, as compared with 12 during the previous week, a total for the current year to date of 201, as compared with 292 at the same date last year. Tests for water shut off totaled 28, as compared with 14 during the preceding week. There were 14 deepening or redrilling jobs listed, 5 more than during the period just preceding. Five holes were abandoned, bringing the total for the current year to date to 74. Permits were issued for the following new wells:

**Torrance**
Location, Company, Well—
George F. Getty, Inc.—
8-4-14 Torrance 34.
14-4-14 Selby & Root Co. 11.
**Rosecrans**
C. C. M. O. Co.—
2-3-14 Bilhorn 1.
7-3-13 Athens 1.
7-3-13 E. E. Combs 2.
7-3-13 Courtney Pet. Co. 15.
General Pet. Corp.—
18-3-13 Vaughn 1-A.
George F. Getty, Inc.—
7-3-13 Athens 4.
7-3-13 Athens 5.
7-3-13 J. T. Robertson Co. 1.
Julian Pet. Corp.—
7-3-13 Athens Comm. 3.
Union Oil Co.—
17-3-13 Chandler 2.
18-3-13 Howard Park 12.
18-3-13 Howard Park 13.
18-3-13 Howard Park 14.
18-3-13 Howard Park 15.
**Dominguez**
Union Oil Co.—
33-3-13 Callender 10.
33-3-13 Callender 11.
**Long Beach**
19-4-12 A. G. Jergins Trust 16.
**Inglewood**
Petroleum Securities Co.—
7-2-14 Cone 3.
**Huntington Beach**
Standard Oil Co.—
12-6-11 Farnsworth 4.
2-6-11 Huntington Beach 32.
**Orange County**
Standard Oil Co.—
1-6-10 Irvine 1.
**Los Angeles County**
25-3-17 Russell Oil Co. 1.
Shell Co.—
11-3-11 Stubbs 1.
Standard Oil Co.—
23-2-12 Hadley 1.
**San Bernardino County**
8-15- 8 The Arapahoe Pet. Co. 1.
**Brea-Olinda**
2-3-10 Shell Co. 3-A.
Shell Co.—
2-3-10 Fisher 3.
**Newhall**
17-3-16 Ed Mayhugh et al 1.
**Ventura**
General Pet. Corp.—
28-3-23 Barnard 4-A.
Shell Co.—
28-3-23 Edison 3.
**Richfield**
32-3- 9 Chicksan Oil Co. 3.
**Santa Paula**
Empire Oil Co.—
13-4-21 "E. P." 1.
**Midway-Sunset**
6-32-24 Honolulu Cons. Oil Co. 35.
6-32-24 Honolulu Cons. Oil Co. 56.
35-12-24 Midway Oil Co. 376.
19-31-24 Pacific Oil Co. 47.
Pinal Dome Corp.—
22-31-22 Wier 2.
20-28-28 Wilmar Oil Co. 6.

## N. LOUISIANA-ARKANSAS

(Continued on Page 104)

Sure Oil Corp. is drilling deeper No. 1 Snyder, in Section 34-15-15 and has 100 feet of oil in the hole at 1,950 feet.

Swartz and others are arranging to deepen No. 2 Burton, in Section 30-15-17, from 2,200 feet.

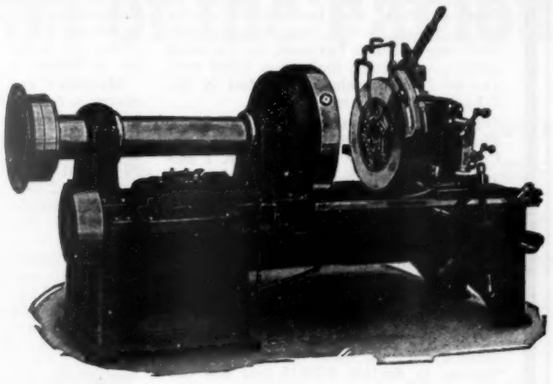
The Texas Co. is waiting for standard rig with 18 feet of sand in the hole at 1,993 feet in No. 8 Berry, in Section 33-15-15; set 6-inch casing at 2,212 feet in No. 2 Neely, in Section 27-15-16; is drilling No. 5 Solmson, in Section 32-15-16, at 1,785 feet; set 6-inch casing at 2,200 feet in No. 6 Solmson, in Section 32-15-16, and also in No. 7 Solmson, in the same section.

The Texas & Pacific Coal & Oil Co. is arranging to deepen No. 1 Laney, in Section 31-15-15, from 2,050 feet; Timerlake and others are swabbing to test 40 feet of sand at 2,348 feet in No. 3 Green, in Section 23-15-17; Sid Umsted has drill stem stuck at 2,524 feet in No. 1 Jones, in Section 26-14-17; the Unity Petroleum Co. is fishing stem at 1,990 feet in No. 3 Berry, in Section 33-15-15.

White and others set 6-inch casing at 1,850 feet in No. 1 Riley, in Section 29-15-17; Whittiken and others are waiting for standard rig with 15 feet of sand in the hole at 2,316 feet in No. 2 Hodges, in Section 26-15-17; Wingfield and others have derrick up for No. 1 Umsted, in Section 4-16-15; also for No. 2 Umsted, in the same section; the Woodley Petroleum Co. has derrick up for No. 3 Umsted, in Section 4-16-15.

**Union County, Arkansas**

The Amerada Petroleum Corp. has derrick up for No. 2 Calloway, in Section



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4-16-15; the Arkansas Fuel Oil Co. is arranging to deepen No. 4 Ferguson, in Section 6-16-15, which was completed, making 400 bbls. at 1,996 feet; set 6-inch casing at 2,225 feet in No. 1 Scott, in Section 1-16-17 and has derrick up for No. 2 Scott, in the same section; will drill deeper No. 6 LaGrone, in the same section, with cable tools from 2,284 feet, and set 10-inch casing at 119 feet in No. 7 LaGrone, in the same section.

Bradley & Cazart are drilling in No. 1 Pate, in Section 16-17-17, at 1,200 feet; Coats & Sowell are rigging up No. 1 Bilyeu, in Section 8-16-15; Crawford & Sebastian are waiting for standard rig with 55 feet of sand and 200 feet of oil in the hole at 2,002 feet in No. 8 Giller, in Section 14-16-15; they set 12-inch casing at 499 feet in No. 5 Graves, in Section 3-16-15, and also set 12-inch casing at 480 feet in No. 6 Graves, in the same section, and are now drilling at 950 feet.

The Crusader Oil Producing Co. is drilling through liner to deepen No. 5 Graves, in Section 3-16-15 and has 600 feet of oil in the hole at 1,997 feet; has derricks up for Nos. 6 Graves and No. 4 Lyell and made location for No. 7 Graves, all in Section 3-16-15; Dyer Brothers set 10-inch casing at 80 feet in No. 4 Stout Lumber Co. in Section 31-15-16 and is drilling at 1,100 feet.

Doern and others set 6-inch casing at 2,110 feet in No. 1 Bradley, in Section 4-19-16; Falls and others are drilling at 2,805 feet in No. 1 Johnston, in Section 1-18-17; the Federal Petroleum Co. is drilling in No. 3 Childs, in Section 8-16-15, at 2,426 feet and has derrick up for No. J-5 Flenniken, in the same section.

**Other Development Work**

W. H. Gilliland has shut down No. A-2 Hodges, in Section 8-16-16, at 650 feet; Grimes & Jones are drilling at 1,640 feet in No. 8 Van Hook, in Section 7-18-14.

The Gulf Refining Co. has made location for No. 8 J. H. Alphin, in Section 10-16-15; has derrick up for No. 6 Berry, in Section 8-16-15; is tracking liners in No. 7 Hardy-Murphy, in Section 5-16-15, and in No. 9 Hardy-Murphy, in Section 3-16-15; is drilling No. 12 Hardy-Murphy in Section 3-16-15, at 2,284 feet; has derrick up for No. 14 Hardy-Murphy in Section 4-16-15; rigging up No. 2 Murphy, in Section 9-16-15; set 6-inch casing at 2,227 feet in No. 29 L. Werner, in Section 6-16-16, drilling No. 31 L. Werner, Section 5-16-16, at 2,753 feet; set 6-inch casing at 2,217 feet in No. 34 L. Werner, in the same section; also set 6-inch casing at 2,220 feet in No. 35 L. Werner, in Section 6-16-16, and set 10-inch casing at 386 feet in No. 38 L. Werner, in Section 5-16-16.

Hickman and others set 6-inch casing at 2,343 feet in No. 8 Graves, in Section 3-16-15; are rigging up No. 9 Graves, in the same section; Hollyfield and others are drilling No. 8 Giller, in Section 11-16-15, at 2,050 feet; they set 10-inch casing at 160 feet in No. 9 Giller, in the same section; Holloway and others are rigging up No. 1 Murphy, in Section 2-16-15.

The Houston Oil Co. is drilling No. 5 Miller, in Section 3-16-15, at 40 feet; set 10-inch casing at 165 feet in No. 1 Parks, in Section 3-16-15; the Humble Oil & Refining Co. set 10-inch casing at 511 feet in No. 5 Pate, and is drilling No. 6 Pate at 1,965 feet, both being in Section 10-16-15.

The Imperial Oil & Gas Co. set 15-inch casing at 51 feet in No. 2 Murphy, in Section 9-16-15; Jones, Ab., is arranging to deepen No. 1 Tatum, in Section 7-16-15. This well was formerly completed at 2,270 feet; derrick is up for No. 3. Johnson Drilling Co. set 10-inch casing at 61 feet in No. 1 Anderson, in Section 1-16-17; Jones & Ganzell are drilling at 1,640 feet in No. 1 Murphy, in Section 36-19-14.

The Liberty Oil Co. is washing to bottom from 2,275 feet in No. 1 Davis, in Section 31-16-14; the Lion Oil & Refining Co. is drilling at 2,000 feet in No. 2 Bilyeu, in Section 8-16-15;; set 6-inch casing at 2,363 feet in No. 5 Flenniken, in Section 10-16-15; set 8-inch casing at 2,331 feet in No. 1 Hays, in Section 4-16-15; has derrick up for No. 3 D. Murphy, in Section 3-16-15.

Lyles and others have derrick up for No. 7 fee, in Section 3-16-15.

The Magnolia Petroleum Co. has derrick up for No. 1 Chandler, in Section 4-19-14; drilling at 1,600 feet in No. 1 Freeman, in Section 7-16-16; has derrick up for No. 1 N. J. Murphy, in Section 36-16-15; set 6-inch casing at 2,000 feet in No. 4 Farrell, in Section 19-16-15.

Matthews and others are waiting for casing to test 4 feet of sand at 2,662 feet in No. 1 Teele, in Section 11-19-12; the Mazda Oil Co. set 15-inch casing at 41 feet in No. D-1 Lawton, in Section 19-16-15; Murdock and others set 6-inch casing at 2,457 feet in No. 3 Bilyew, in Section 8-16-15; O. G. Murphy has derrick up for No. 2 Murphy, in Section 9-16-15.

The Natural Gas & Petroleum Co. has derricks up for Nos. 1 and 5 Bilyew, in Section 9-16-15, and in the same section has made location for No. 2 Bilyew; the Noco Petroleum Co. is arranging to go deeper in No. 2 Flenniken, in Section 5-16-15.

The Ohio Oil Co. set 8-inch casing at 1,950 feet in No. 3 Ballard, in Section 14-16-15; set 10-inch casing at 502 feet in No. 6 Pate, in Section 10-16-15, and has derricks up for Nos. 7 and 8 in the same section; is rigging up Nos. 3 and 4 S. Murphy, in Section 9-16-15.

Page and others have derrick up for No. 5 Murphy, in Section 7-16-15; the Pure Oil Co. is drilling No. 1 Bilyew, in Section 8-16-15, at 60 feet, and drilling No. 11 Craig, in Section 15-16-15, at 1,970 feet; the Ray Drilling Co. is arranging to deepen No. 2 Tatum, in Section 7-16-15, from 2,008 feet.

The Roxana Petroleum Corp. is arranging to deepen No. A-2 Flenniken, in Section 10-16-15, from 2,013 feet; has derrick up for No. B-2 Flenniken, in Section 5-16-15; is rigging up No. 1 Hardy-Murphy, in Section 9-16-15, and is arranging to deepen No. 2 T. D. Murphy, in Section 7-16-15.

Rutledge, trustee, is arranging to bail 2 feet of sand at 2,262 feet in No. 5 Hodges, in Section 6-16-16; the Shreveport Oil Corp. is drilling No. 2 Murphy, in Section 9-16-15, at 350 feet and is rigging up No. 2 Umsted, in the same section.

The Standard Oil Co. of Louisiana has 1,000 feet of fluid in the hole at 1,901 feet in No. 2 J. H. Alphin, in Section 2-16-15; and is waiting for standard rig; set 10-inch casing at 134 feet in No. 17 J. H. Alphin, in the same section, and is now drilling this well at 300 feet; is moving in rig to No. 18 J. H. Alphin, in Section 3-16-15; rigging up Nos. 5 and 6 J. H. Alphin in Section 4-16-15; and has derricks up for Nos. 5 and 6 Hardy Murphy, in Section 4-16-15.

The Sun Oil Co. has derrick up for No. 5 Hollyfield, in Section 6-16-15; the Sunny Jim Oil Co. set 6-inch casing at 2,475 feet in No. 3 Flenniken, in Section 9-16-15, and is drilling at 2,487 feet.

The Texas Co. has derrick up for No. 6 Alphin, in Section 3-16-15; is drilling at 1,951 feet in No. 3 Calloway, in Section 4-16-15; and rigging up No. 7 Graves in Section 3-16-15.

The Unity Petroleum Co. has 8-inch casing stuck in No. 6 Roper, in Section 3-16-15; is arranging to set 6-inch casing at 2,362 feet; is drilling No. 7 Roper, in the same section at 2,300 feet; Ward and others are drilling at 2,350 feet in No. 1 Goodwin, in Section 16-16-14; Webb Oil Corp. set 10-inch casing at 420 feet in No. 1 Adcock, in Section 22-16-15, and is drilling at 1,976 feet now; Nye Wilson is rigging up No. 5 Hayes, in Section 4-16-15.

**Columbia County**

Only one test is now drilling in the Stephens district in Columbia County and that is the deep test of the Magnolia Petroleum Co. No. 2 Watson in Section 36-15-20, now down 3,460 feet.

The Arkansas Fuel Oil Co. is down 2,960 feet in a wildcat test on the W. E. Hardy lease in Section 1-19-22, 11 miles southwest of Magnolia.

The Magnolia Development Co. has set 6⅝-inch casing at 2,257 feet in No. 1 Phil Lindsay, Section 30-18-19, 12 miles southeast of Magnolia.

Wingfield & Mitchell are drilling at

(Continued on Page 128)

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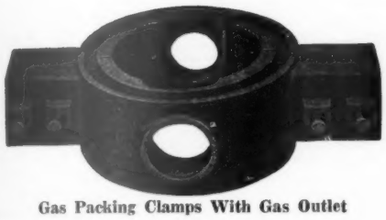

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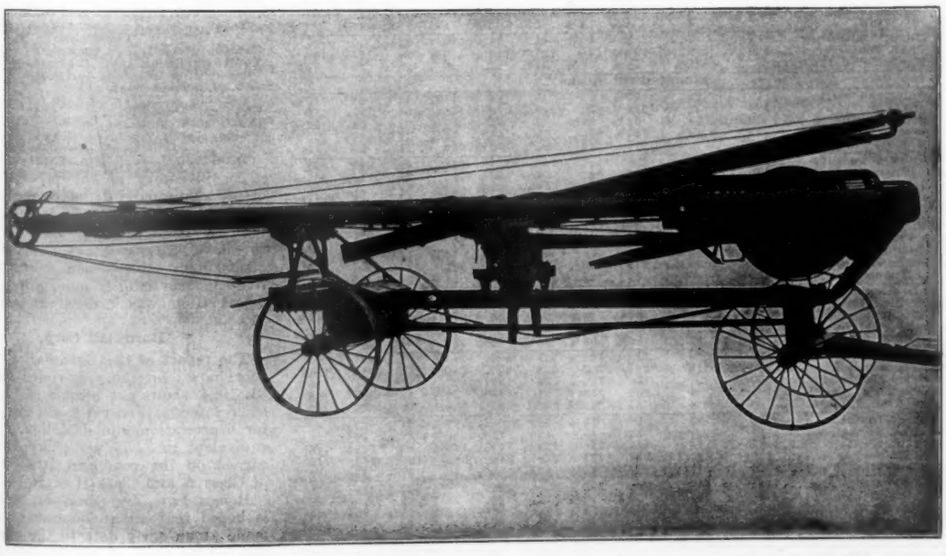

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# Oil Securities Reacted During Week

## Activity on the Whole Not Lessened. Standard of New Jersey Dropped and Other Oil Issues Fell Off Proportionately

By N. O. Fanning
*Room 543, No. 30 Church St., New York*

NEW YORK, March 14.—Oil securities reacted during the past week, although activity on the whole has lessened. Standard Oil Co. of New Jersey common dropped to 41½, against a high of 47½ for the year. Other oil stocks fell proportionately, with a few exceptions. California Petroleum Co. common was strong, advancing to a new high at 32⅞, while the preferred advanced to 111¾.

Pan American Petroleum & Transport common and common B stocks sold off from the highs on the announcement that negotiations were under way for the sale of some of its properties to interests identified with the Standard Oil Co. of Indiana. A readjustment of the corporate structure affecting some of its subsidiaries is also planned, but what will be done exactly has not yet been made clear.

### Houston Oil Financing

Houston Oil plans to issue approximately $7,000,000 short term notes, proceeds of the sale of which will be used partly to finance the construction of additional pipe line facilities in Texas.

### Magnolia Petroleum Stock Dividend

The Magnolia Petroleum Co. has declared two dividends of 1 per cent each in stock in addition to the regular quarterly cash dividend of $1 per share. The first stock dividend is payable April 5 to stockholders of record March 12 and the second October 5 to stockholders of record on a date to be fixed later. Cash dividend is payable July 5 to stockholders of record June 19.

### Earnings for 1924

Oil company net earnings for 1924 were larger than for 1923. The reports of numerous companies so far issued indicate this. The improvement shown is in line with prediction made in these columns. The Standard Oil Co. of Indiana earned slightly less in 1924 than in 1923, but the earnings for both years are considered remarkable in view of the fact that prices were comparatively low and in fact the price cutting centered in its territory in the fall of each year, being communicated to other districts later.

The Texas Co. report for 1924 shows a spectacular improvement over that for 1923. Earnings per share in 1924 were $4.02, against $1.24 in 1923.

### The Texas Co.

The annual report of The Texas Co. shows gross earnings of $139,613,622 in 1924, against $118,422,367 in 1923, and net earnings of $50,548,568, against $30,875,791. After reserves for depreciation, taxes and inventory adjustment the company reported net income of $26,458,275 for 1924. This was equal to $4.02 a share earned on the $164,450,000 capital stock of $25 a share par value outstanding. In 1923 the company reported net income of $8,197,582, equal to $1.24 a share.

The balance sheet as of December 31, 1924, shows net current assets of $128,335,905 and current liabilities aggregating $26,431,398, leaving net working capital of $101,704,507, against net working capital of $87,670,591 at the close of 1923.

The consolidated income account for 1924 and 1923 follows:

| | 1924 | 1923 |
|---|---|---|
| Gross earnings | *$139,613,622 | $118,422,367 |
| Expenses, etc. | 89,065,054 | 87,546,576 |
| Net earnings | $ 50,548,568 | $ 30,875,791 |
| Depreciation after tax, etc. | 19,228,321 | 16,182,727 |
| Inv. ad. | 4,861,972 | 6,495,482 |
| Net income | $ 26,458,275 | $ 8,197,582 |
| Dividends | 19,734,000 | 19,734,000 |
| Surplus | $ 6,724,275 | †$11,536,418 |
| Previous surplus | 88,477,434 | 94,476,396 |
| Total surplus | $ 95,201,709 | $ 82,969,078 |
| Adj. cr. | | 5,537,457 |
| P. & L. surp. | $ 95,201,709 | $ 88,477,435 |

*After deducting cost of materials.
†Deficit.

As of December 31, 1924, the consolidated balance sheet shows up as follows compared with 1923:

**Assets**

| | 1924 | 1923 |
|---|---|---|
| Plant, equip. etc. | $244,602,723 | $242,442,272 |
| Corp. secur. | 1,834,608 | 1,608,237 |
| Supplies | 6,616,241 | 8,433,101 |
| *Oil inventories | 83,422,489 | 84,279,977 |
| Def. chgs. | 960,529 | 1,335,086 |
| Accts. and notes rec. | 21,366,803 | 18,183,861 |
| Cash | 16,900,372 | 14,370,510 |
| Total | $375,733,765 | $370,653,044 |

**Liabilities**

| | | |
|---|---|---|
| Capital stock | $164,450,000 | 164,450,000 |
| Def. pur. ob. | 2,178,019 | 3,493,642 |
| Accounts and notes payable | 23,781,398 | 36,277,870 |
| Miscellaneous | | 1,318,988 |
| Federal taxes | 2,650,000 | |
| Amortores | 2,431,740 | 2,552,542 |
| Depr. reserves | 85,040,899 | 74,082,567 |
| Surplus | 95,201,709 | 88,477,435 |
| Total | $375,733,765 | $370,653,044 |

*Reduced to cost or market whichever lower. 1924 figures at cost.

Because of its method of carrying inventories at cost, which was lower than the market at the end of 1924, and increases in oil prices this year, The Texas Co.'s book value of $83,422,489 for crude and refined oil inventories not only is far under the present worth, but also less than market value at the beginning of 1925.

The company had 40,000,000 bbls. of crude and refined oils stored at the start of 1924. It was probably less than that at the start of 1925, an estimate putting the figure at more than 35,000,000 bbls., of which more than half was crude oil.

With the inventories carried at the lower figure of cost at the beginning of 1925 the current prices of crude and refined oils represent an appreciation of about $35,000,000 in value of the inventories over the book value January 1.

The Standard Oil pipe lines did not fare so well in 1924 as in the preceding year, due to the limited use of their trunk lines by the major crude oil buyers.

The following table shows per share earnings of many of the oil companies having so far reported net for 1924. The figures represent net earnings after all charges and preferred dividends, if any, per share on the outstanding capital or common stock:

| | Par Value | 1924 | 1923 |
|---|---|---|---|
| Houston Oil | $100 | $ 3.93 | $ 3.57 |
| American Republics | No | 9.74 | 1.61 |
| Solar Refining | 100 | 17.12 | 12.47 |
| Standard of Indiana | 25 | 4.66 | 6.69 |
| Barnsdall Corp. | 25 | 1.77 | .39 |
| New York Transit | 100 | 3.73 | 4.77 |
| Eureka Pipe Line | 100 | .84 | 6.49 |
| Southwest Pa. P. L. | 100 | 2.60 | 7.87 |
| Cumberland Pipe Lines | 100 | 14.64 | 26.31 |
| Southern Pipe Line | 100 | 2.80 | 6.47 |
| Northern Pipe Line | 100 | 6.35 | 7.78 |
| Indiana Pipe Line | 50 | 5.99 | 9.60 |
| The Texas Co. | 25 | 4.02 | 1.24 |

Net earnings of The Texas Co. in 1924 were the second largest in the company's history, amounting to $26,458,275.

### Illinois Pipe Line

The report of the Illinois Pipe Line Co. as of December 31, 1924, shows total assets of $36,347,251, against $26,176,511 at the close of 1923.

The balance sheet of the Illinois Pipe Line Co. as of December 31, 1924, compares as follows:

**Assets**

| | 1924 | 1923 |
|---|---|---|
| Inventory pipe line properties | $30,803,807 | $22,152,210 |
| Other investments | 442,000 | 442,000 |
| Cash and accounts receivable | 3,843,039 | 2,714,551 |
| Deferred assets, etc. | 121,108 | ..... |
| Materials & supplies | 1,137,297 | 867,750 |
| Total | $36,347,251 | $26,176,511 |

**Liabilities**

| | | |
|---|---|---|
| Capital stock | $20,000,000 | $20,000,000 |
| Total liabilities, est. | 1,562,495 | 1,678,777 |
| Depreciation reserves | 10,356,805 | ..... |
| Miscellaneous accounts payable | 59,167 | 330,774 |
| Unadjusted credit | 8,017 | ..... |
| Profit and loss surplus | 4,360,767 | 4,359,461 |
| Total | $36,347,251 | $26,176,511 |

An inventory of the pipe line properties was apparently taken during 1924, judging from the foregoing statement, with the result that the value was found to have increased by approximately $8,000,000. More than offsetting this item on the liability side, a reserve for depreciation was created amounting to $10,356,805.

### Barnsdall Corp.

The report of the Barnsdall Corp. and subsidiaries for the year ended December 31, 1924, shows net income of $1,255,980 after interest, Federal taxes and reserve for depreciation and depletion. This is equivalent to $1.77 per share (par $25) earned on the combined 708,536 shares of Class A and Class B capital stock.

Robert Law, Jr., president, states: "It is hoped that an announcement may be made at an early date to the effect that the bonded debt of the corporation has been liquidated."

## NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

| Stock— | Par | ‡Dividend Rate | Clos. Quot. Mar.16 | Mar.9 | 1925— High | 1925— Low | 1924— High | 1924— Low | 1923— High | 1923— Low |
|---|---|---|---|---|---|---|---|---|---|---|
| American Republics | .. | .. | *59 | *60 | 66¼ | 48 | 48 | 25 | .. | .. |
| Associated Oil | 25 | 6 | 33½ | 36 | 39½ | 33½ | 34⅝ | 27⅝ | 29¼ | 29½ |
| Atlantic Ref. com | 100 | .. | 107 | 111 | 117½ | 95⅛ | 140½ | 78½ | 160 | 98⅜ |
| Barnsdall "A" | 25 | .. | 24⅝ | 28 | 28¾ | 21½ | 22¼ | 14 | 35 | 9⅞ |
| California Pet. com. | 25 | ? | 28½ | 31½ | 31½ | 23⅞ | 29 | 19⅞ | 28½ | 17½ |
| Cosden & Co. com. | .. | .. | 29¾ | 33¼ | 35⅜ | 26¾ | 40¼ | 22⅝ | 62¼ | 23¾ |
| General Am. Tank | .. | †3 | 48 | *53 | 58½ | 51 | 53 | 35½ | 71⅝ | 40 |
| General Petroleum | 25 | 8 | 51 | 54⅜ | 56¼ | 42 | 45 | 38⅝ | .. | .. |
| Houston Oil | 100 | .. | 70 | 78⅛ | 85 | 70 | 82½ | 61 | 78 | 40¾ |
| Independent Oil & Gas | .. | †1 | 25½ | 32¼ | 30 | 13½ | 16¼ | 5⅜ | 11¼ | 3⅝ |
| Indian Refining | 10 | .. | 7 | *8½ | 10⅜ | 5½ | 7 | 3⅜ | 8½ | 4 |
| Louisiana Oil | 50 | .. | 17⅝ | 20 | 23¾ | 16¾ | .. | .. | .. | .. |
| Maracaibo | .. | .. | 27⅝ | 29 | 35½ | 27½ | 37½ | 25⅜ | 28¼ | 16 |
| Marland | .. | .. | 39⅝ | 41½ | 46¼ | 38¼ | 42 | 29 | 59⅝ | 18½ |
| Mexican Seaboard | .. | .. | 14⅛ | 15 | 22½ | 14½ | 25⅜ | 14⅛ | 19¾ | 5¾ |
| National Supply | 50 | 6 | 64 | 65 | 71 | 61¾ | 72½ | 54 | 68 | 54 |
| Pacific Oil | 50 | †2 | 55¾ | 60½ | 65¼ | 53¾ | 58¼ | 45 | 52½ | 31½ |
| Pan American com. | 20 | 12 | 73¼ | 79⅞ | 82¾ | 65 | 65 | 44½ | 93½ | 53 |
| Phillips Petroleum | .. | †2 | 39¾ | 42¾ | 46⅜ | 36⅝ | 42¼ | 28½ | 69⅝ | 19¾ |
| Producers & Refiners | 50 | .. | 23⅝ | 28¼ | 32⅝ | 23⅝ | 43½ | 29¾ | 58¼ | 17½ |
| Pure Oil com. | 25 | 6 | 27½ | 30⅛ | 33¾ | 27⅜ | 30¼ | 20 | 32 | 16¼ |
| Royal Dutch, N. Y sh. | 13.40 | 4.42½ | 51¼ | 54 | 57⅝ | 51⅛ | 59½ | 40⅝ | 55⅛ | 40½ |
| Shell Transport | 10 | 3.30 | *40 | 42½ | 45¾ | 41 | 42 | 33 | 41¼ | 29½ |
| Shell Union com. | .. | †1 | 24⅜ | 25⅝ | 28⅜ | 22½ | 22½ | 15⅜ | 19¼ | 12⅝ |
| Simms Petroleum | 10 | .. | 21¼ | 22⅝ | 26¾ | 20⅞ | 24 | 10⅜ | 16¾ | 6½ |
| Sinclair Consolidated com. | .. | .. | 18⅝ | 21⅜ | 24⅞ | 17 | 27½ | 15 | 39⅜ | 16 |
| Skelly Oil | 25 | .. | 25 | 27⅞ | 30½ | 24 | 29 | 17⅛ | 35 | 12½ |
| Standard of California | 25 | 8 | 59⅝ | 61⅜ | 67¼ | 59⅝ | 68½ | 55½ | 64¼ | 47½ |
| Standard of N. J. com. | 25 | 4 | 41⅝ | 42½ | 47½ | 40¼ | 42¼ | 33 | 44¼ | 30⅝ |
| Superior Oil | 6 | .. | 4¼ | 4½ | 6⅛ | 4¼ | 8⅛ | 2⅝ | 6¾ | 2 |
| The Texas Co. | 25 | 12 | 44⅝ | 46¾ | 49 | 42¾ | 45⅝ | 37¾ | 52⅞ | 34⅝ |
| Texas Pacific Coal & Oil | 10 | .. | 14⅞ | 19¼ | 23⅜ | 11½ | 15¼ | 8¼ | 24¾ | 5½ |
| Tide Water Oil | 100 | 4 | 134 | 144½ | 149 | 130 | 151 | 116¼ | 144 | 94 |
| Transcontinental | .. | .. | 4½ | 4⅞ | 5½ | 3⅞ | 6¼ | 3⅜ | 14½ | 1¼ |
| Union Oil of California | 25 | 7.2 | 38 | 40⅜ | 43⅜ | 37¼ | 39 | 35½ | .. | .. |
| Union Tank com. | 100 | 5 | 122½ | *124 | 127⅜ | 118½ | 132⅞ | 94 | 114 | 106 |
| White Eagle Oil & Refining | .. | 2¼ | 26⅞ | 28⅜ | 31⅝ | 21 | 29⅜ | 23½ | 30⅜ | 20½ |
| **Standard Oil Stocks** | | | | | | | | | | |
| Anglo-American Oil | £1 | 25 | 20½ | 20½ | 21 | 18 | 18⅜ | 14⅜ | 19¾ | 13½ |
| Borne Scrymser | 100 | 12 | *214 | 214 | 240 | 225 | 264 | 150 | 153 | 110 |
| Buckeye Pipe Line | 50 | 14 | 63½ | 66¼ | 72 | 62 | 85½ | 51 | 94 | 57½ |
| Chesebrough Mfg. Co. | 25 | 14 | *53½ | *55 | 70 | 48¼ | 52½ | 29¼ | 340 | 205 |
| Crescent Pipe Line | 25 | .. | *12 | *12½ | 15⅜ | 12⅜ | 20 | 11¼ | 25 | 15 |
| Cumberland Pipe Line | 100 | 12 | 135 | *132½ | 150 | 128 | 148 | 109 | 117 | 80 |
| Eureka Pipe Line | 100 | 8 | 83 | *83 | 96 | 83 | 105 | 74 | 117¼ | 87 |
| Galena Signal com. | 100 | 4 | 58 | *60 | 68⅛ | 56⅜ | 69¾ | 52⅛ | 78 | 55 |
| Humble Oil & Refining | 25 | 4.8 | 46 | 46⅛ | 47¾ | 42¼ | 43¾ | 36 | 41 | 28¼ |
| Illinois Pipe Line | 100 | 12 | 142 | 150 | 154½ | 127 | 161 | 123 | 171 | 115 |
| Imperial Oil, Ltd | .. | †2 | 28½ | 30½ | 34⅛ | 28½ | 119 | 99 | 123 | 92 |
| Indiana Pipe Line | 50 | 8 | 75¼ | *76⅛ | 84 | 73 | 100 | 66 | 103 | 81 |
| International Pet. Co. | x50 | x50 | 24⅝ | 26 | 28⅜ | 23 | 24⅜ | 16⅞ | 24⅜ | 13¼ |
| Magnolia Petroleum Co. | 100 | 4.5 | 140 | 143⅛ | 159 | 135 | 162 | 124 | 166 | 123 |
| National Transit | 12.50 | 16 | 23 | *23 | 25½ | 22⅜ | 25⅞ | 20⅝ | 29 | 19⅛ |
| New York Transit | 100 | 3 | 69½ | 71½ | 75 | 65½ | 97 | 54½ | 138 | 70 |
| Northern Pipe Line | 100 | 6 | *84 | *84 | 88 | 80 | 107½ | 72 | 111 | 96 |
| Ohio Oil Co. | 25 | 8 | 68⅝ | 70⅜ | 75¼ | 64 | 79½ | 53 | 85⅜ | 48⅜ |
| Penn-Mex. Fuel | 25 | .. | 39 | 40 | 44¼ | 35⅜ | 45⅝ | 27 | 45 | 10¼ |
| Prairie Oil & Gas | 25 | †2 | 55¼ | 58⅜ | 65½ | 53⅜ | 269 | 193 | 272 | 152 |
| Prairie Pipe Line | 100 | 8 | 119 | 122½ | 126 | 106 | 111 | 100 | 117 | 93 |
| Solar Refining Co. | 100 | 15 | *223 | *232 | 259 | 200 | 240 | 170 | 212 | 161 |
| South Penn Oil | 100 | .. | 170 | 184 | 197 | 139 | 176 | 117 | 196 | 100 |
| South West Pa. Line | 100 | 4 | *69 | *72 | 84 | 76½ | 89 | 68 | 89 | 66 |
| Southern Pipe Line | 100 | 4 | 85 | *85½ | 103 | 85 | 100 | 80½ | 116 | 87 |
| Standard of Indiana | 25 | 10 | 62 | 65⅛ | 70 | 61⅞ | 69⅜ | 54¼ | 69⅞ | 48⅛ |
| Standard of Kansas | 25 | .. | 36 | 40⅞ | 46 | 35½ | 50½ | 32½ | 56¼ | 36½ |
| Standard of Kentucky | 25 | 16 | 117¼ | 118½ | 124½ | 117½ | 121⅛ | 101 | 109½ | 76 |
| Standard of Nebraska | 100 | 20 | 250 | *261 | 270 | 244 | 262 | 198 | 280 | 186 |
| Standard of New York | 25 | 5.6 | 42¼ | 45½ | 48⅝ | 42½ | 48 | 37⅜ | 49⅜ | 35½ |
| Standard of Ohio com. | 100 | 10 | 350 | 354 | 369 | 338 | 377½ | 277 | 320 | 270 |
| Swan & Finch com. | 25 | .. | 23 | 24¾ | 27 | 22 | 28 | 20 | .. | .. |
| Vacuum Oil | 25 | †3.75 | 89 | 92¼ | 96⅛ | 80⅛ | 83¼ | 56½ | 55½ | 40 |
| Washington Oil | 10 | .. | *30 | *30 | 30½ | 30 | 29 | 25 | 28 | 20¼ |
| **Miscellaneous Stocks** | | | | | | | | | | |
| Cities Service bks. sh. | ‡ | .. | 18⅝ | 19⅜ | 21 | 17⅜ | 19 | 13¼ | 18½ | 12⅜ |
| Continental | 10 | 10 | 25⅞ | 27⅞ | 31⅛ | 25½ | .. | .. | .. | .. |
| Gulf Oil Corp. of Pa. | 25 | 6 | 65 | 66½ | 71 | 65 | 67⅜ | 56 | 68¼ | 45¾ |

*Bid, no sales. †In dollars. ‡Six per cent cash and 6 per cent scrip annually. §The figures in this column are kept up to date as far as possible, but are not guaranteed. xCents per share.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

| | | | | | | |
|---|---|---|---|---|---|---|
| Mar. 16 | 54 14 | Feb. 9 | 58.39 | Jan. 5 | 53.01 |
| Mar. 9 | 57.73 | Feb. 2 | 59.24 | Dec 29 | 51.73 |
| Mar. 2 | 59.56 | Jan. 26 | 56.09 | Dec. 22 | 50.76 |
| Feb. 23 | 58.02 | Jan. 19 | 54.58 | Dec. 15 | 50.36 |
| Feb. 16 | 55.96 | Jan. 12 | 55.28 | Dec. 8 | 49.49 |

### DIRECT FROM THE BARREL

The Save-the-Sales Corp. of 343 South Dearborn Street, Chicago, is putting out a rotary ump which can be attached to a barrel or drum enabling the motorist to fill his tank direct from the barrel.

## ROCKY MOUNTAIN AREA

(Continued from Page 48)

ready to spud. A small skimming plant formerly operated in Colorado is being moved to the field by the Bloomfield Oil & Gas Co., which expected to treat the crude and sell it in the field for local consumption.

### Montana Operations

In the Kevin Field, the Treasure State Anderson No. 3 was completed in the Ellis sand last week, and while not so good as the other wells on the lease, is a commercial producer. The Securities Oil Co., drilling on the Shamrock lease, completed No. 5 and has production from both the Sunburst and Ellis sands. The Adams Shuster No. 2 was drilled into the Ellis sand and shot, but does not show for as good a well as No. 1. A second dry hole has been completed on the Huestis lease, where the Mid-Northern Oil Co. found a duster some time ago. The Sweetgrass Arch Oil Co. drilled No. 2 Shilton to a depth of 2,173 feet and encountered water. This well showed for a commercial producer in the upper sands, but was carried deeper with the result noted. The First International well on the Jerring lease also drilled into water, but is now showing some oil. It is not known whether oil is present in commercial quantities

The Wilson-Fisher test on the McDonald Creek structure near Winnett, Mont., has been definitely abandoned. This well found a good showing of oil with considerable water at a depth of about 1,000 feet. An attempt was made to shut off the water, but the cement failed to hold. The well was drilled with a machine, and the hole had been reduced to 2½ inches before the oil was encountered. Owing to the smallness of the hole and the failure of the cement to hold, it was decided to drill a new hole rather than spend any more time or money on the first one. It is understood the new well will be started immediately. The A. B. Mitchell rig is being moved from the Cat Creek Field to the McDonald Creek structure, and will be used to drill the new well.

The Midwest Refining Co. is preparing to shut off the water in No. 1 Putman in the Lake Basin district in Montana, and will carry the well on down for a thorough test of all sands. It is now 3,697 feet deep, having found a substantial gas flow in the Frontier sand, and water in the Dakota. No. 1 Price in the same field is still drilling.

In the Kevin Sunburst Field, the Big West Oil Co. completed No. 5 Allen, on Section 31-35-1, and has a flowing well which will make 100 bbls. or better. In the same field, the Potlatch Oil Co. has resumed drilling on its deep test, which has been standing for some time at 3,715 feet. No. 2 Adams Hibbing on Section 32 is also reported a good producer at 1,507 feet. It is expected to make a 75-bbl. well.

A decision has been rendered by Judge Johnson of the District Court at Salt Lake City in the suit of the Government against E. M. Harrison and others which was an outgrowth of the reversal of Secretary Fall's ruling that Indian lands could be leased under the 1920 leasing law. The decision means the Harrison permits are valid, and the Midwest Refining Co. may continue its development work thereon.

Following the increase in drilling operations in New Mexico, the National Supply Co. is opening a branch warehouse and store in Artesia. Assistant District Manager Ingram has been sent from the Casper office with several assistants to operate the new store until a permanent staff is installed. The Artesia district, and in fact, all the New Mexico structures, are slated for great activity this summer.

**Field Runs for the Week**

| | |
|---|---|
| Salt Creek | 61,190 |
| Teapot | 2,050 |
| Big Muddy | 3,350 |
| Grass Creek | 3,840 |
| Elk Basin | 890 |
| Greybull | 20 |
| Rock River | 3,490 |
| Lance Creek | 710 |
| Poison Spider | 120 |
| Osage | 350 |
| Hamilton Dome | 560 |
| Lander | 200 |
| Byron | 60 |
| Pilot Butte | 30 |
| Lost Soldier | 5,390 |
| Ferris | 110 |
| Cat Creek | 3,275 |
| Sunburst | 3,080 |
| Craig | 850 |
| Fort Collins | 620 |
| Florence | 240 |
| Rangely | 100 |
| Hogback | 310 |
| Artesia | 710 |
| Rattlesnake | 425 |
| Miscellaneous | 350 |
| Total | 92,320 |

**Field Runs for Month of February**

| | |
|---|---|
| Salt Creek | 1,870,540 |
| Teapot | 56,360 |
| Big Muddy | 88,550 |
| Grass Creek | 63,890 |
| Elk Basin | 23,940 |
| Greybull | 560 |
| Rock River | 88,960 |
| Rex Lake | 1,890 |
| Lance Creek | 20,720 |
| Poison Spider | 3,570 |
| Osage | 9,800 |
| Hamilton Dome | 14,840 |
| Lander | 5,600 |
| Byron | 1,680 |
| Pilot Butte | 1,890 |
| Lost Soldier | 133,080 |
| Ferris | 3,080 |
| Cat Creek | 98,595 |
| Sunburst | 92,155 |
| Craig | 24,135 |
| Fort Collins | 18,200 |
| Florence | 6,755 |
| Hogback | 9,730 |
| Artesia | 22,470 |
| Rattlesnake | 8,155 |
| Rangely | 2,205 |
| Miscellaneous | 6,935 |

## GULF COAST

(Continued from Page 40)

rick; No. 2 Merchant is rigging up. The Monarch Oil Co.'s No. 4 Thompson is drilling at 3,175 feet. Eagle Point Oil Co.'s joint No. 104 Dolbear is at 1,800

Republic Production Co.-Houston Oil Co.'s joint No. 104 Dolbear is at 1,800 feet; No. 105 at 2,600 feet; No. 106 at 1,950 feet; No. 107 is rigging up; No. 108 building derrick; No. 109 a derrick. The Higgins Oil & Fuel Co.'s No. 4 Taylor is pumping 50 bbls. at 3,280 feet; No. 6 building derrick. The Texas Co.'s No. 1 Hannah fee is drilling at 2,950 feet; No. 2 at 2,070 feet; The Texas-Vacuum Oil Co.'s No. 5 Hannah is a location. The Yount-Lee Oil Co.'s No. 5 Stengler is drilling at 2,750 feet; No. 11 Merchant is a location. The Empire Gas & Fuel Co.'s No. 16 Barngrover is drilling around 3,650 feet; Houston Production Co.'s No. 8 Taylor at 3,800 feet; No. 9 is a derrick; No. 11 Barngrover is bailing at 3,650 feet; the Gulf Production Co.'s No. 15 Scarborough, bailing at 3,950 feet; No. 47 Phoenix, drilling at 3,250 feet; No. 48 at 425 feet; No. 49, rigging up; No. 12 Baldwin fee, drilling at 3,000 feet; No. 20 Morris-Phillips, 2,850 feet; No. 17 David Hannah fee, 1,625 feet; No. 45 Phoenix is rigging up and No. 1 Stengler and others is drilling deeper at 3,050 feet.

### South Louisiana

In the Edgerly Pool, G. W. Gray's No. 11 Lillard is a salt water hole at 2,335 feet. The Gulf Refining Co.'s No. 32 Bright-Penn is rigging to deepen, and the Roxana Petroleum Corp.'s No. 1 Hunter is below 4,200 feet.

In the Vinton Pool the Gulf Refining Co.'s No. 61 G. N. G. is flowing 400 bbls. at 2,450 feet. The Vinton Petroleum Co.'s No. 6 Rescue is making 100 bbls. at 2,310 feet. The Just Oil & Refining Co.'s No. 1 Lyons, a workover, is pumping 100 bbls. The Seiss Oil Co.'s No. 5 Green is bailing at 2,310 feet, as is the Gulf Refining Co.'s No. 33 Starr at 2,800 feet.

Two wells are drilling in the Lockhart Pool near Lake Charles. The Vacuum Oil & Refining Co. has started No. 2 Miller and the Marland Oil & Refining Co. is making a test about 1 mile south.

The Gulf Refining Co.'s No. 36 J. C. at Jennings (La.), is rigging up and the Foxman Oil Corp.'s No. 1 Truschel is drilling around 925 feet.

At Vinton the Gulf Refining Co.'s No. 35 Star is rigging up; No. 38 Vincent is rigging up; Marrs McLean's No. 1 Gray is drilling at 1,550 feet. The Just Oil & Refining Co.'s No. 2 Weeks is drilling at 250 feet; the Vinton Petroleum Co.'s No. 14 Harmony is arranging to pump at 2,810 feet; No. 15 Vincent is sidetracking at 1,750 feet; No. 13 Rescue is a location. The Edgerly Petroleum Co.'s No. 2 Lizzo is drilling at 2,820 feet; No. 3 Vincent, 3,040 feet. The Texas Co.'s No. 2 Gray "A", 1,850 feet. Sun Oil Co.'s No. 3 Johnson, 3,420 feet.

## OKLAHOMA FIELDS

(Continued from Page 43)

Co. had a rig up for No. 2 de Lozier, NE cor. SW SW, Section 15-14-6. The Amerada Petroleum Corp.'s No. 1 Oney, C SW SW NE, Section 19-14-6, was drilling at 600 feet.

### Seminole County

T. B. Slick's No. 1 Sanny, SW cor. Section 18-6-7, Seminole County, was dry and abandoned at 4,325 feet.

### Okfuskee County

The Okliana Oil Co.'s No. 4 Barnett, CEL SE NE, Section 34-11-11, was dry and abandoned at 2,637 feet. The Atlantic Oil Producing Co. and others' No. 2 Gray, C SW SE SE, Section 36-12-10, was dry and abandoned at 3,125 feet. The Josey Oil Co.'s No. 1 Carolina, C NE NE SE, Section 32-12-11, had top of sand at 2,965 feet, and was good for 25,000,000 feet of gas at a total depth of 2,971 feet. Webster and others' No. 3 Tarvin, NW cor. NE SW, Section 3-11-11, was making 25 bbls. from sand at 2,642-90 feet.

Holm & Jarvis were rigging up No. 1 Lena, C SE SE NE Section 15-11-8. Dalton & Baker had a rig on the ground for No. 1 Hill, C NE NE NW, Section 28-13-8. The Atlantic Oil Producing Co. had a rig on the ground for No. 4 Fisher, C SW NW SE, Section 36-12-10. The Independent Oil & Gas Co. had a rig up for No. 2 Jacob, NE cor. SE SW, Section 33-12-11. The H. F. Wilcox Oil & Gas Co.'s No. 1, C SW SW SE, Section 19-11-9, was drilling at 850 feet. The Prairie Oil & Gas Co.'s No. 1 Yarhola, C NW NW SE, Section 25-11-9, was drilling at 1,500 feet. The same company's No. 1 Grayson, C SW SW SW, Section 19-11-10, was drilling at 540 feet. The Waite Phillips Co.'s No. 1, C SE NE NW, Section 23-11-10, was drilling at 950 feet. Vincent and others' No. 1 Thomas, C NW NW SW, Section 28-11-11, was drilling at 600 feet.

### McIntosh County

E. O. Sargent's No. 2 McIntosh, C SW SW SW, Section 29-11-14, in McIntosh County, was dry and abandoned at 3,700 feet.

### Okmulgee County

The Eastern Oil Co.'s No. 8 Berry, C NE NE SW, Section 25-13-11, had pay sands at 2,342-56 feet and 2,462-79 feet. It was god for 200 bbls. after being shot with 20 quarts. The Mt. Fork Oil Co. and others' No. 2 Roberts, SE cor. NW SW, Section 28-13-11, was dry and abandoned at 2,600 feet. R. W. Veerson's No. 3, C NE SW SE, Section 2-13-12, was good for 5,500,000 feet of gas when deepened to a sand at 2,736-42 feet.

Henry & Noble's No. 1 Barnett, NW cor. SE SE, Section 34-16-12, in the Sheldon Pool, Okmulgee County, was dry and abandoned at 2,235 feet. Meadows & O'Brien's No. 2 Morey, CNL NW NE, Section 34-16-12, was completed with sand at 2,147-58 feet, making 75 bbls. naturally. The Superior Oil Corp. and others' No. 5 Morey, SE cor. SW NE, Section 34-16-12, was making 300 bbls. naturally from sand at 2,134-70 feet.

Kellough had a rig up for No. 3, CWL SW SE, Section 29-15-11. T. A. Johnson had a rig on the ground for No. 1 Lansford, NE cor. NW, Section 3-15-12. D. D. Mickelson's No. 1 Adams, NE cor. SE SE, Section 19-15-12, was spudding in with a machine. The Wood Oil Co. was rigging up to deepen No. 1, SW cor. SE, Section 14-13-11, old total depth 2,480 feet. W. C. Newman and others had a rig on the ground for No. 2 Larney, NW cor. NE SE, Section 32-13-12. The Waite Phillips Co.'s No. 1 Kanard, C SW SW NW, Section 33-13-12, had 5,000,000 feet of gas from sand at 2,105-07 feet, and had a show of gas at 2,264 feet, where it was running the 6-inch casing. The Aztec Oil Co.'s No. 4 Rentie, NW cor. SE SW, Section 31-12-12, was a hole full of water at 2,420 feet. The Iron Mountain Oil Co. had a rig up for No. 7 Thomberry, SW cor. SE NW, Section 24-13-14.

The Independent Oil & Gas Co. was rigging up No. 9 Coleman, NE cor. SW NW, Section 27-16-12. The Margay Oil Co. was spudding in No. 2 Coleman, SW cor. NE, Section 27-16-12. The Sheldon Oil Co. was spudding in No. 2 Vore, CNL NE NE SW, Section 34-16-12.

### Hughes County

The Mid-Kansas Oil & Kas Co.'s No. 2 Holt, C NW SE NE, Section 9-9-11, in Hughes County, was completed, with sand at 3,052-67 feet, and was making 30 bbls. after a 20-quart shot. The Kingwood Oil Co.'s No. 1 McCalvart, C NW NE NW, Section 29-9-10, had 1,500,000 feet of gas at 2,540-50 feet, and was drilling at 3,070 feet. The Middle State Oil Co.'s No. 1 Koenig, NW cor. Section 13-6-11, was dry and abandoned at 4,003 feet.

The Tidal-Osage Oil Co. abandoned No. 4 Holt, C NW NW NE, Section 9-9-11, a rig. Stover & Dempsey were spudding in No. 1 Bowlegs, C NW SW SW, Section 23-9-9, 4 miles south of the Papoose Field. The Independent Oil & Gas Co. had a rig up for No. 1 Harjo, C SE SE NE, Section 18-9-10. The Prairie Oil & Gas Co. was spudding in No. 2 Bruner, C NW NW NW, Section 20-8-10.

### Pontotoc County

The Howarth Oil & Gas Co.'s No. 1 Edwards, SW cor. NE, Section 19-5-7, in Pontotoc County, was dry and abandoned at 3,775 feet.

The Dixie Oil Co.'s No. 1-A Harjo, C NW NW SW, Section 26-5-8, was drilling at 600 feet. Kerr and the Burke-Greis Oil Co.'s No. 1 Pearson, C SE NE NE, Section 30-5-10, was a rig.

### Garvin County

The Magnolia Petroleum Co.'s No. 4 Jones, C NW NE SE, Section 14-1-3w, in Garvin County, was completed for 5 bbls. naturally from sand at 1,465-72 feet. The Concord Oil Co.'s No. 8, NW cor. SE SE, Section 11-1-3w, was making 15 bbls. naturally from sand at 1,616-25 feet.

### Muskogee County

J. M. Foltz's No. 1, CNL NE, Section 33-14-17, was dry and abandoned at 2,210 feet. The Tidal-Osage Oil Co.'s No. 2 Sango, C E half, SW SE, Section 1-14-17, had broken sand at 1,202-89 feet, and was good for 15 bbls. after an 80-quart shot.

### Carter County

C. R. Smith's No. 6 Ned, C NE SE NE, Section 27-2s-3w, Carter County, had sands at 2,108-2,114 feet, 2,134-41 feet, 2,144-50 feet, 2,250-55 feet, and was drilled to a total depth of 2,300 feet, and was making 30 bbls. naturally. Westheimer & Daube's No. 1 Kalish, CEL NE NE SE, Section 16-4s-2w, was good for 40 bbls. naturally from sand at 2,232-60 feet. The same owners' No. 13 Dillard, NE cor. SW SW, Section 22-4s-2w, made 45 bbls. from broken sands between 2,200 feet and 2,478 feet. The Wolverine Oil Co.'s No. 38 Dillard, C S half SW SW, Section 22-4s-2w, was completed for 48 bbls. from sand at 2,490-2,501 feet. The Amerada Petroleum Corp.'s No. 6 Clay, SW cor. SE NE, Section 28-5s-1, was good for 15 bbls. from sand at 1,070-73 feet. The same company's No. 4 Westheimer, C SE NE NW, Section 28-5s-1, was good for 20 bbls. from sand at 1,003-09 feet. Westheimer & Daube's No. 2 fee, C N half NE NW, Section 28-5s-1, was making 12 bbls. naturally from sand at 1,033-45 feet.

Noble & Olson had a rig up for No. 1, C NE SW NW, Section 34-1s-3w. The Magnolia Petroleum Co.'s No. 4 Bennett, C E half, SW NW, Section 31-2s-2w, was drilling at 1,040 feet. The Schermerhorn Oil Co. was rigging up No. 1 Palmer, C W half SW SW, Section 32-2s-2w. The Atlantic Oil Producing Co.'s No. 2 Stanton, NW cor. NE NW, Section 25-2s-3w, was drilling at 300 feet. Simpson & Fell's No. 3 Walker, C NW SW NW, Section 10-4s-2w, was drilling at 230 feet. The Amerada Petroleum Corp. had a rig up for No. 7 Criner, C N half, NE NW, Section 20-5s-1; was drilling at 850 feet in No. 7 Clay, CWL NW NW NE. Section 28-5s-1; was rigging up No. 9 Clay, CEL NE SW NE, Section 28-5s-1; and was rigging up No. 5 Westheimer, C S half NE NW, Section 28-5s-1.

### Stephens County

The Four Star Oil Co.'s No. 1 Davidson, NW cor. SE, Section 11-3s-8w, in

(Continued on Page 127)

# REFINING AND MARKETING

## Petroleum Division Of Chemical Society Announces Program

PITTSBURGH, Pa., March 16.—Twenty-one papers of interest to petroleum technologists have been arranged for the program of the petroleum division of the American Chemical Society, which will meet at Baltimore, Md., April 6 to 10, inclusive, according to G. A. Burrell of the program committee. The following papers have been prepared:

Interpretation of Test Data on Petroleum and Bituminous Products, by G. L. Oliensis.

Lubricating Greases, Their Composition, Properties and Application, by J. E. Babb.

Corrosion Effects of Naphtha Solutions of Sulphur and Sulphur Compounds, by A. E. Wood and Clyde Sheely.

Equilibrium Vaporization of Gasoline, by Reston Stevenson and Herbert J. Stark.

The Committee on Petroleum Chemistry of the National Research Council, by B. T. Brooks.

New Developments in Refining, by R. H. Brownlee.

Deterioration and Reclamation of Automobile Crank Case Oil, by A. E. Flowers, F. H. McBerty, and Ronald Reamer.

Water Soluble Products from Hig Temperature and High Pressure Oxidation of Heavy Hydrocarbons, by Sherlock Swann, Jr. and E. Emmet Reid.

New Cracking Process of the Anglo-Persian Oil Co., by A. E. Dunstan and S. J. M. Auld.

The Vacuum Assay Distillation Test, by A. G. Peterkin, Jr., and S. W. Ferris.

The Relation of Boiling Point and Some Other Properties of Petroleum Products, by J. B. Hill and S. W. Ferris.

The Sulphur Compounds in Gasoline, by W. B. Dillingham and E. Emmet Reid.

The Detonation of Liquid Chlorine and Gasoline Mixtures, by B. T. Brooks.

A Test for the Relative Decolorizing Efficiencies of Clays, by J. B. Hill, L. W. Nichols and H. C. Cowles, Jr.

The Determination of the Density of an Oil at Temperatures from 20 Degrees to 40 Degrees C, by H. H. Griffin.

Crystallizing Point of Paraffin Wax, by A. P. Bjerregaard.

Polymerization in Sulfuric Acid Refining of Cracked Distillates, by Jacques C. Morrell.

Adsorption Studies on the Decolorization of Mineral Oils, by T. H. Rogers.

A New Method and Apparatus for Measuring the Vapor Tension of Gasoline and Other Liquids, by H. S. Davis.

Further Studies on the Effect of Anti-Knock and Knock Inducing Substances Upon the Hot Wire Ignition of Certain Gas Fuel Mixtures, by Cecil E. Boord and Raymond E. Schaad.

The Roxic Effect of Petroleum Products Upon the Timber Destroying Fungus, Fomes Annosus, by Ernest Bateman.

## NEBRASKA GASOLINE TAX THROUGH HOUSE

LINCOLN, Neb., March 14.—Providing a tax of 2 cents a gallon on gasoline sold in the State, the House of Representatives passed House Bill 214 with an emergency clause by a vote of 72 to 23. Little opposition to the bill is expected in the Senate. The bill also requires that dealers must be licensed.

According to the bill, proceeds of the tax will be used to match Federal aid on building State highways. The remainder will be used on secondard roads. The bill exempts gasoline sold for tractors, stationery engines, airplanes, motor boats and dry cleaners. If the bill passes the Senate and is signed by the Governor the tax will be collective in 10 days.

## NATURAL GASOLINE MANUFACTURERS CONVENTION PROGRAM OUTLINED

Details are being completed rapidly and the program arranged for the annual convention of the Association of Natural Gasoline Manufacturers. The convention will be held at the Mayo Hotel at Tulsa Wednesday and Thursday, April 22 and 23. Only a few speakers are yet to be provided for the program, and these places are expected to be filled in a few days.

All speakers have been chosen because of their knowledge of their subjects and all are widely known in the petroleum industry. The first session of the convention will be held at 10 o'clock Wednesday morning, April 22. The annual banquet, which will close the convention, will be held Thursday night at the Mayo.

The program as arranged so far follows:

10:00 a. m: Address of welcome, F. L. Chase, operating manager, Lone Star Gas Co.
Annual address, D. E. Buchanan, president, Association Natural Gasoline Manufacturers.
Discussion.
Appointment of nominating committee.

**Afternoon Session**

2:00 p. m: "Absorption Oil," A. F. Maxon, Sun Co.
Discussion led by R. R. Dean, assistant superintendent, Waite Phillips Co.
"Treating," W. G. Hiatt, research engineer, Phillips Petroleum Co.
Discussion led by R. M. Coyle, assistant superintendent, Chestnut & Smith Corp., Ranger, Tex.

**Thursday, April 23**

10:00 a. m: Report of Secretary and treasurer.
Election of officers.
"The California Outlook," Kenyon L. Reynolds, astant general manager, Pacific Gasoline Co.

2:00 p. m: Discussion led by S. C. Carney, superintendent gasoline department, Roxana Petroleum Corp.
"Residue Gas," L. F. Bayer, vice president and general manager, Tidal Refining Co.
Discussion.
Discussion led by G. M. Davidson, general superintendent, operation and construction, Empire Gasoline Co.

**Evening**

Annual banquet, Mayo Hotel.

## NEW ENGLAND JOBBERS OPTIMISTIC ON OIL

BOSTON, Mass., March 14.—Branding all motor gasoline "dope" as useless, Augustus Gill of the Massachusetts institution of Technology delivered the chief address before the Independent Oil Men's Association of New England at its monthly meeting here today.

Optimism was prevalent among the oil men who were gathered here, which was upheld in the address of Walter H. Goodrich of New Haven, president of the association, who declared that conditions in the oil industry generally are satisfactory. Goodrich pointed out that the industry has been suffering greatly for the last three years, principally because of over-production and low rates, but that now consumption and production are on a par assuring the industry of a promising future.

Sixty-five members attended the sessions while 12 new members were admitted. The next meeting will be held at Worcester, Mass., April 8.

## GASOLINE TAX BILL THROUGH JERSEY HOUSE

TRENTON, N. J., March 16.—Bills reducing the registration fee for passenger cars to $3 and imposing a tax of 2 cents a gallon on gasoline sales have been passed by the State assembly of New Jersey. The registration fee on trucks weighing up to 5,000 pounds also is reduced to $3, with a graduated scale for heavier vehicles, reaching a maximum of $99 for vehicles weighing from 29,001 to 30,000 pounds. The gasoline tax would be collected from the distributer and bus lines paying the franchise tax. Agricultural and municipal vehicles would be exempt.

## MARCUS HOOK PLANT OF SINCLAIR CO. READY

NEW YORK, March 14.—Preliminary work toward starting crude oil through the stills of the new 10,000-bbl. refinery of Sinclair Consolidated Oil Co. at Marcus Hook, Pa., is under way, and actual operation of the plant is expected to begin April 1.

The Marcus Hook plant, which was completed recently, is equipped with the most modern appliances in refinery practice, including two batteries of high pressure stills using the Isom system of cracking. The plant will manufacture gasoline, kerosene, furnace oil and bunker fuel oil.

The new refinery will make approximately 6,000 bbls. of gasoline daily under usual pressure still operation. If needed, crude oil can be run down to coke and a larger gasoline recovery obtained. The plant is designed so it can be operated on coal or oil as fuel.

### WINFIELD, KANSAS, PLANT

Plans are being formulated by J. Arthur Hull of Tulsa, oil operator, for the erection of a natural gasoline plant on his producing properties east of Winfield, in Cowley County, Kansas. Although his plans are tentative, Hull expects to build a plant with a capacity of 2,000,000 to 3,000,000 feet of gas daily. He has more than 2,000 acres under lease in the Winfield district.

### ENLARGE PETROLIA STATION

Orders have been placed by the Empire companies for compressing machinery which will provide 2,070 additional horsepower at its gas compressor station at Petrolia, Kan. The additional equipment will have an approximate daily capacity of 25,000,000 cubic feet and entails an expenditure of $200,000.

### OPPOSE CITY GASOLINE

LINCOLN, Neb., March 14.—Independent oil men from several States will be here next week to protest the proposed bill before the State Senate which would grant power to municipalities to go into the coal and gasoline business when they think there is a monopoly. Attorney General Spillman has appeared before the Senate committee urging the bill.

## SUPERIOR GASOLINE IN CANADA IN 1924

The average quality of gasoline sold in Canada in 1924 was superior to that sold during 1923, according to the annual survey just announced by the Canadian Government. The gasoline sold during 1923 was considered of exceptional quality.

The Canadian Government makes its survey each year on tests based on 50 samples of gasoline collected in August from wholesalers or distributors in Halifax, St. John, Quebec, Montreal, Ottawa, Toronto, London, Winnepeg, Regina, Calgary, Edmonton, Vancouver and Victoria. The samples are analyzed by the Canadian Department of Mines.

The average distillation curve shows that the gasoline sold in Canada in August, 1924, was superior to that sold in the United States during July of the same year. It also was superior to the United States Federal specifications for motor gasoline.

Tests are made for distillation range, iodine value and specific gravity. The variation in quality was greater in 1924 than in the previous year. The measure of the variation in quality is shown in the following table:

**Difference Between Maximum and Minimum End Points in Degrees Fahrenheit**

| | Canada | | | U. S. | |
|---|---|---|---|---|---|
| | 1916 | Aug. 1924 | Aug. 1924 | July 1923 | July 1924 |
| Maximum 10% | 432 | 446 | 459 | 471 | 467 |
| Minimum 10% | 322 | 381 | 358 | 400 | 396 |
| Difference ... | 110 | 65 | 101 | 71 | 61 |

## IMPROVEMENTS PLANNED BY TRANSCONTINENTAL

In preparation for an increased refining business the Transcontinental Oil Corp. is expending approximately $250,000 in improvements and expansions to its three plants at Bristow, Boynton and Fort Worth. The improvements will be completed within 60 days and the three plants operated at full capacity, it has been announced.

Four stills or cracking units are being added to the Bristow plant, making a total of 10 cracking units in the battery. At Boynton three new crude stills are being added, bringing the plant's total to 13, while at Fort Worth the capacity of the filtration apparatus is being doubled to 24 such stills. A complete set of continuous agitators is being installed at each plant.

All three plants now are being run at full capacity—the Bristow plant at 6,000 bbls.; Boynton at 3,000 bbls., and Fort Worth at 5,000 bbls. The improvements will increase the capacity of the Boynton plant to 5,000 bbls.

The Transcontinental recently completed a complete compounding plant at the Fort Worth refinery capable of handling 5,000 bbls. of crude daily. This plant cost approximately $225,000. It is turning out a complete line of bright stocks and filtered neutrals from Ranger crude.

## CANADIAN GASOLINE AT PRE-WAR PRICES

Gasoline is one of the few commodities selling at or near pre-war levels in Canada, according to a compilation of prices since 1913 in that country. In 1913, the average yearly wholesale price of motor gasoline at Toronto was 25 cents a gallon. In 1921 it was 35 cents; in 1922 it was 32¾ cents; in 1923 it dropped to 25¾ cents, and in 1924 to 25½ cents.

A tendency toward overproduction of crude oil in the United States during recent years, and the keen competition of numerous producers to market their output are given as the reasons for this relatively low level of prices.

# Tower Equipment With Pipe Stills

## Efficient Fractional Distillation and Condensation Secured Through Proper Design. Operation and Results Explained

By I. B. Chittenden
*Consulting Engineer*

In a previous article I discussed the bubble plate tower. The design of towers using the bubble cap, as a means of attaining fractional distillation, has many complex problems—namely, the placing bubble caps in the trays; the spacing of the trays to accomplish the desired results; the unique design of bubble cap (of which there are many) to perform the functions of separating the entrained molecules, from the volatile constituents; the precision of the depth of cup, in the absorbing oil; the exact dimensions of the holes for constant velocity of the vapors and many other "vital" points.

The precision applied to the design of this equipment is worthy of comment. The velocity of the vapors is of vital concern in the performance of the bubble cap towers. The most practical velocity is about 2 to 2.5 feet per second. The ebullition of the molecules from the still entering the fractionating tower is being influenced to a change in phase. The more volatile hydrocarbons will traverse the system, but the precise application of the potential energy of surface tension of the vapor to liquid is accomplished by the reflux liquid descending the tower, through the bubble caps, in counter current to vapors ascending.

The potential energy is affected by the temperature of the reflux liquid, and the equilibrium of the surface tension of the liquid to the vapor. It has been proved by tests that the vapors, traversing the bubble trays, decrease in end point on an average of 10 degrees Baume for every tray traversed in the series. Slight variations have been noticed however due to surging, or mechanical entrainment from the previous bubble cap. The use of bubble caps has materially affected the required results for this separation, but the supersaturated molecules traversing the system bend to bring about mechanical entrainment, due to the agitation of the vapors descending in the tower.

### Mist Extractor

The only effective method to stop this difficulty, is the use of an auxiliary tower, or "mist extractor." The purpose of this tower is to expand the vapors, decrease the velocity to 1 to 1½ feet per second, and allow the molecules to attain a state of equilibrium in order to separate out the molecules in the liquid phase, entrained in the supersaturated vapor. It is my contention that bubble towers should be equipped with "mist extractors" to perform the functions in unity with the entire equipment.

### Chemical Tile

The use of chemical tile has resulted in more uniform separation of the less volatile constituents, due to the decreased agitation of the vapors ascending in the tower. The uniform centrifugal force of separating the liquid from the vapor is due to the steady and uninterrupted path of the elements. Tests have proved that a 12-degree Baume point decrease is effective in the end point of the vapors traversing the tower in an effective depth of 12-inch in comparison to bubble trays and caps—of differential spacing, as previously discussed. Therefore, "the use of chemical tile has materially aided in the perofrmance of fractional distillation, and the same action has been effected in the separation of the liquid from the vapor. In comparison to the bubble caps the ultimate perfection of the tower using tile as a separating and absorbing medium must also resort to the use of a "mist extractor" to bring about the desired results.

However, by tests it has been found that the decrease of supersaturated vapor was noted from the chemical tile, due to the equilibrium of the vapor and liquid in surface tension often leaving the main tower as violent agitation had not occurred while the vapors were traversing the tile. The theory is that the tile has uniform absorbent surface and the influence of surface tension aids in the condemnation of the molecules.

### Tower With Pipe Still

In the previous article the use of fractionating towers with conventional shell stills was presented with operating suggestions for the use of which the "towers" could be most adaptable. The pipe still has many interesting points pertaining to its use with fractionating equipment and to illustrate the performance I am presenting a unique method of accomplishing efficient results for effective tractional distillation and fractional condensation by the adoption of properly designed towers.

This particular discussion is presented in the accompanying diagrammatic flow sheet. The performance of the equipment is quite unique and very efficient in all details of operation. The unit is very adaptable to skimming plant, where gasoline, naphtha, kerosene, stove distillate, gas oil and fuel oil are the products required. The simplicity of operation should be attractive. The efficient results attained by the operation of the unit is illustrative of the appreciable saving over the conventional shell still and fractionating tower equipment. The chart is illustrative of the flow of the crude oil traversing the system of the condensate exchangers.

### Operation of Equipment

The increase in temperature of the oil is attained by the method of heat exchange. That is, heating the crude with the absorbing heat units of the hot condensater. The gasoline fraction is wholly fractionated from the crude by this method and the saving is appreciable when the number of equivalent heat units are calculated to demonstrate the efficiency of the equipment and the application of thermo dynamics in the design of the respective unit.

The residue from the evaporator, which consists of naphtha, kerosene and gas oil series is pumped through two vapor heat exchangers where additional heat is absorbed by the residue traversing the system. The temperature of 500 degrees Fahrenheit is realized before the oil reaches the tube still furnace. The increase in temperature of the oil to 40 degrees Fahrenheit is attained by the application of heat to the exterior of the tubes which raises the temperature to 640 degrees Fahrenheit. The oil is now at the temperature required, the entire volume of products being vaporized. The highest boiling fractions condense first, namely gas oil. Thence on down the range of fractional condensation of the constituents. The last tower partially condenses the lowest boiling point elements and the uncondensed vapors or the most volatile hydrocarbons partially condense in condensate exchange and ultimately in the water condenser.

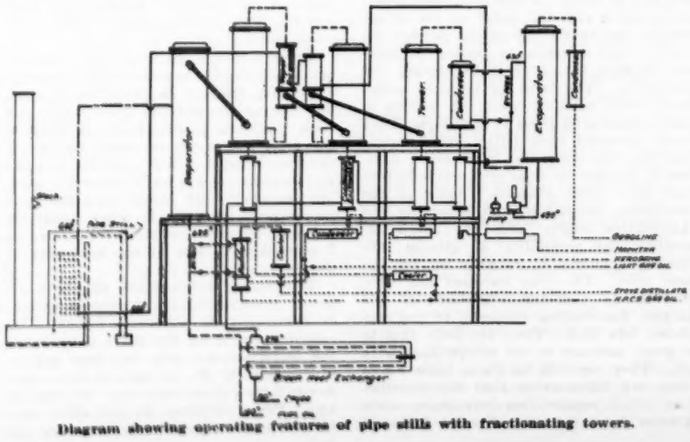



Diagram showing operating features of pipe stills with fractionating towers.

The consensate produced by the fractional condensation of the vapors of respective elements receives partial condensation in the condensate exchangers as shown by the cold crude oil traversing the system. The condensate reduced in temperature appreciably in this process are ultimately condensed in the water condensers as shown.

### Fractional Condensation

The "fractional condensation" of the vapors traversing the system is accomplished by the application of "thermodynamics" in the determination of the point of equilibrium of the vapors in respect to surface tension in contact with the chemical tile.

By exact calculations the positive point of fractionation of the vapors can be attained and the results will be as predicted for the volumetric capacity for which the tower was designed. I wish to state however that pipe stills and dephlegmators or fractionating towers can only function with one kind of crude for an efficient operation. If the quantities of the condensate are appreciable in differential range, the excess volume of condensate will necessitate extra equipment for that respective cut in order to condense properly the volume of vapors traversing the system. This is the only week part of this type of equipment.

The results attained by the use of either bubble towers or chemical tile towers have not been presented with the idea of determining which is most efficient. The tile has been used by the writer with wonderful success. For that reason I am stressing the advantages of this effective material in accomplishing the results as predicted for "fractional condensation" of the hydrocarbons.

There are many marked improvements in the use of pipe still equipment, when compared to conventional shell stills with their respective types of towers. The pipe still and towers take no steam for attaining fractional condensation of the differential elements to be fractionated. The reduction of condensing surface is very appreciable, due to the elimination of surface necessary for steam condensation, the decrease in consumption of water required for condensing purposes, and the reduced volumetric capacity of the towers as only the oil vapors are traversing the system for fractional condensation within the respective unit. The fuel consumption will average 2 per cent for the equipment in comparison to figures as presented for shell stills. It is my contention that equipment, to function in the predicted manner, should be free from any mechanical contrivances used in conjunction with fractionating towers to aid in the accomplishment of superficial results, or defeating the main objective.

When direct refluxing of oil is necessary with any battery of towers in order that respective tower attain a certain end point the prediction for the tower is defeated and the equipment is faulty in design.

Therefore, to equip refineries with modern efficient fractionating towers, to accomplish either method of fractionation, the prediction is to apply the principles of the "technology" for this respective development.

### GREAT STRIDES IN TOWER DESIGN

What kind of tower equipment is best suited to our needs and plant?

This is a question being asked by practically every refiner. Great strides have been made during the past two years in tower design and operation and it is the phase of plant operation in which many operators are primarily interested at the present time. In a few instances at least operators have not been satisfied with the results obtained. This has been due not so much because of faulty equipment as Mr. Chittenden explains but rather because the refiner has not known just what design of tower was needed for his particular operating problem.

The Oil and Gas Journal secured the services of Mr. Chittenden with the view of giving aid to the plant operators in solving some of the problems concerned with more efficient fractionation. Mr. Chittenden has had several years of practical refinery experience with several of the larger companies and at the present time is connected with one of the largest refineries in the Mid-Continent Field.

In the February 26 issue of The Oil and Gas Journal Mr. Chittenden discussed fractionation and tower design used in conjunction with shell stills. Special reference was made to bubble towers and chemical tile packed towers. In later articles Mr. Chittenden will discuss use of fractionation towers with steam stills, lubricating stills, coke stills, pressure stills and other types of refinery distillation equipment.

### VACUUM OIL REFINERY

Vacuum Oil Co. is building a refinery in Czecho-Slovakia for treating Polish oils.

# CHICAGO GASOLINE EASIER IN TONE

## Bigger Business Than Year Ago, But Free Offerings at Lower Prices and Storm Affect Market. Kerosene Disappointing. Distillates Easy. Gas Oil Soft. Fuel Oil Weak. Lubs Active

By John B. Waldo

CHICAGO, March 14.—The most encouraging market news is the statement of the jobbers as to the increased business compared with last year. The most unfortunate part in the situation is the free offerings of gasoline for March shipment by refiners at prices much lower than the recent market and frequently accompanied by requests for bids. In fact some of the wires read a good deal like the cry of the auctioneer: "Ten cars of Navy and five of 64-375 over March. What am I bid?" There has been some doubt that gasoline was really obtainable at the prices mentioned by some jobbers, but the doubts have been set at rest by the offers of the past two days. There are really more than just free offers for in some cases refiners have wired marketers whom they have not sold for months and with whom they have never done any business. The inference here is that their regular source of orders has not been sufficient to absorb their outlet. They have not been getting the business.

Yet when the reports are made by reliable distributing organizations of increases over last year ranging from 18 to 25 per cent in sales it is occasion for thought. One reliable organization reports its sales during January and February were 25 per cent ahead of the same months last year and another equally reliable and prominent concern states its sales for the first two weeks in March were even with the entire volume of business during March 1924 with exactly the same number of stations in operation. These are positive facts and the wires from refiners are equally positive.

These active jobbers are getting their supplies from some regular source and in most cases mentioned they were operating refineries that supplied at least a part of the gasoline and other products which they distributed through their stations. In another case the jobber has a very favorable contract with a large refiner and takes the bulk of his gasoline from that source. In fact he has had more than sufficient for his own stations and has sold some. Evidently one reason for the increased distribution this year is the weather. Last year there was a real embargo on business outside of the cities for more than 30 days over a considerable part of the territory. The manager of a company operating in northern Illinois and southern Wisconsin stated that for 30 days it was practically out of business. That is probably the chief reason why the gallonage is so much larger this year and some include increased sales of furnace oil in their greater volume of business.

### Market Easier

The market has shown a little improvement one day to lose it all the next and is right now if anything easier in tone than a week ago, the immediate cause being a very severe blizzardy storm from the North, alternating rain and snow The market seems to be in the position of a piece of machinery that is easily blocked when moving slowly or not moving at all but that is almost irresistible when going at full speed. Small things are very noticeable in a quiet market and the fact that some refiner has five cars for sale of some grade of gasoline at a low price is used as a reason why the entire price structure should be changed. Right now it is easy to get a price of 11¼ cents for a car or two but if the buyer wants 50 cars for fairly prompt delivery the price is another matter. The writer was assured there were such orders that could be placed at 11½ cents but there was no refiner large enough to fill the order that would take it at less than 11⅜ cents if at that.

It is because of the offerings by small refiners and of small lots by marketers and even resale of gasoline delivered on marginal contracts that the local market is easy if not actually pessimistic in tone. The trade forgets that as a rule business is larger than a year ago. Many local marketers have done as well as the jobber referred to and have already booked as much business this month as during the entire month of March 1924.

The jobbers are still holding back and placing one and two-car orders for prompt delivery. Many larger ones are securing their gasoline from their own plants or on contracts so that they are out of the market. The price of 58-60 gasoline laid down here is just about 14 cents and with an 18 cents price in 100-gallon lots the marginal contracts made this year are just about on a parity with the spot market while the hold over contracts are a cent or more less. It is the holders of these contracts who are able to offer gasoline for resale at less than 12 cents and still make a profit. Early in the week a large part of the sales of U. S. Motor gasoline were made on the basis of 11⅜ with some orders taken at 12 cents but later the price dropped and little was sold at over 11½ cents with some cars disposed of at 11⅜ and even at 11¼ cents for U. S. Motors gasoline. The higher gravities were easy in tone, 64-66—390 and 375 end point being offered as low as 14¼ cents and in one instance a refiner offered 10 cars over the month at 14⅛ cents. Blends were easy in tone around 10½ cents for the 450 end point. Natural gasoline is quiet with slight change in prices during the week.

### Kerosene Disappoints

Kerosene has tired out owners and several have decided to dispose of their holdings while they can at a price that represents possibly a slight profit but not a material one. The demand has been distinctly disappointing during the week. There has been some call for the 41-43 but not what was expected, but this grade has been plentifully offered. The 42-44 is less freely offered and the prices have held a little better. Some sales of the former has been made at 4½ cents with a few reported at 4⅜ cents and some refiners asking higher prices. The market would probably range from 4½ to 4⅝ cents for 41-43 and 4¾ to 5 cents for the 42-44 gravity.

### Distillates Easy

The distillates are rather easy in tone and practically all at about the same price. Sellers try to get more for distillate than gas oil and more for a 38-40 than for a 36-38 gravity but a live buyer can pretty nearly get what he wants at 3½ to 3⅝ cents. There is an occasional order for a car and many of the active dealers are nearly out of the market devoting their energies to getting in right on gasoline rather than to closing out distillates. The local oil industry seems fairly well satisfied with the results of their season's business in distillates. They have increased their outlet but competition has been keen and there are a number of changes in ways and methods that will have been adopted. Some of the marketing companies and especially the Association offices here are asked regarding the possibility of getting into the distributing of furnace oil by the coal men. The coal business has been bad locally and the conditions of the largest distributing company in the city shows how bad. They attribute this in a great measure to the competition with oil. They are told by those from whom they ask information that the distribution of oil requires an investment much greater than the sale of solid fuel and that it is done on a much more narrow margin.

### Gas Oil Soft

Gas oil has been sold in quantities to refiners and to utility companies but the market is soft and supplies large. It is the many small orders that count in gas oil as in gasoline. It is the five and ten-gallon fills at the stations that consume the bulk of the gasoline and in any consuming branch of any industry when the small buyers are out of the market by the thousands the occasional contracts for a large quantity over a period do not take the place of the small sales. The smaller manufacturers, the users of gas oil for heat, are about through and they are refilling their tanks in small amounts against the day when the weather will become really warm. This may be two or six weeks hence.

### Fuel Oil Weak

Fuel oil is easy and rather weak. Evidently that surplus over the takings by the railroads and by the industries near by the refineries, has become too large and as it is close to the end of the larger demand the refineries are pushing sales to a very considerable extent. Most are holding for $1.15 Group 3, and dealers are asking $1.20, but these are really top prices and there are concessions being made that foreshadow lower prices unless something happens. The reduction made by the Standard Oil Co. (Louisiana) in its posted price for Smackover crude has been a weakening influence on the fuel oil market but the refinery product seems to have been worse hit than the Smackover fuel for that is still held with firmness at $1.20 to $1.25. Dealers here claim the price of the fuel had never been advanced to a parity with the top prices for crude and that at the present cost of crude at the wells, the price of Smackover fuel is still based on earlier and lower priced contracts rather than on present costs of crude. The industrial demand is fairly active, but buyers are still following their hand to mouth policy of buying. This is the real feature of the market. Buyers profess to believe the top prices of crude have been reached and that there are as good chances for declines as advances, evidently basing their talk on the move in Smackover crude. Some contracts made late last year figure out good prices for the oil today. One buyer stated his oil has cost him more during the season than it would if he had not had a contract. As a class, buyers seem hard to please. Their viewpoint is a new version of the old saying, "sell and repent." Theirs is "contract and be sorry."

### Lubs Active

Lubricating oils are active and firm at the recent prices. The buying by the jobbing trade is in preparation for the coming season of tractor and motor consumption. The stocking up is stated to be on an extensive scale and has been hastened to some extent by the suggestions that prices for the finished goods were due for an upturn. The export business is proceeding quietly but a considerable quantity is being steadily absorbed.

### Tank Wagon Unchanged

Tank wagon markets are unchanged in this territory and there is no sign of any intention to make any changes at an early date, but all signs fail in this matter. It is a condition that is always "dry" of advance information. A further crude advance would probably be followed by increases in the tank wagon prices over the territory but failing a crude advance there is at present no ostensible reason for a change in either direction unless it be in the excellent distribution compared with last year which has been mentioned. However, so long as supplies are so ample this would hardly be a reason, according to many oil men. The jobbers still are contending they are entitled to a larger share of the tank wagon advances to date than they have had and many state 11 cents is the correct refinery price as this gives the refiner rather better than one-half the advance and allows the jobber under average conditions his 4 to 4½ cents margin over the delivered price. When it was suggested to the head of one of the associations of oil jobbers that 2 cents used to be considered a living margin and 3 cents a very favorable one, he replied that we used to buy linen collars two for a quarter and that everything was advanced in proportion. This individual claimed there could never be a settled market until every branch of the industry, that is every essential part of it, was making a reasonable profit. But this is not always the case in other industries. In these as in petroleum there is the same tendency for large concerns to extend their activities until they cover the industry. The chain stores are a good example. Some of them manufacture or import practically every article they sell in any quantity. Of course one reason is that it enables them to avoid price comparisons with competing concerns by buyers on identical articles.

# EASTERN REFINED MARKET SOFTER, BUT UPWARD RENEWAL IS EXPECTED

By N. O. Fanning

NEW YORK, March 14.—The refined oil markets in the Atlantic Seaboard district was unchanged during the past week, with a somewhat soft tendency. The reaction from the more favorable month of January advanced further but refiners and marketers believe that from now on there will be a renewal of the upward trend.

The reaction which has taken place is not due entirely to sentimental reasons. The sharp advance in the price of gasoline during January in New York and New England, amounting to 6 cents in the tank wagon market went further in the retail price. Most service stations and garages are asking 25 cents for gasoline as against 18 cents when the tank wagon price was 15. In other words the price of gasoline to most consumers is 7 cents higher than at the beginning of the year.

This sharp increase has adversely affected consumption to a certain extent. It could not do otherwise, when it is considered that on the above price levels the motorists can only buy four gallons of gasoline for $1, as against more than five gallons a little more than two months ago. Price advances do not affect consumption as a rule when they are restricted to two or even three cents, but an advance of 6 or 7 cents is another matter.

Restriction in consumption is reflected in larger additions to stocks during February and this has been accentuated so far in March. At the same time the leading refiners are curtailing operations somewhat, as they are determined not to over-extend themselves.

Another factor which, together with the high prices, has tended to restrict consumption of oil is that prosperity in the eastern industrial cities has not advanced so far as in the rural districts such as the Middle West and Southwest. Therefore eastern consumers have to pay higher prices without having yet enjoyed the fruits of higher incomes.

As a result of this the next upturn in oil prices, if there is to be one, will have its origin in the West, according to oil men here. It will be remembered that the recent upswing actually started as an increase in the price of gasoline in New York and New England, which was later followed by advances in other parts of the country in gasoline, and by crude advances in the various oil fields.

Eastern marketers therefore have their eyes on the Standard Oil Co. of Indiana,

awaiting the next important move in the gasoline tank wagon market.

**Restriction of Operations**

An indication of the fact that refinery operations were further curtailed during the first two weeks of March is contained in The Oil and Gas Journal statistics showing receipts of crude and refined oil by water at Atlantic ports. During the week ended March 11, receipts averaged 333,000 bbls., daily, against 506,000 bbls. the preceding week and 515,000 bbls. against the week ended February 25. Receipts during February averaged 460,000 bbls. daily, and during January 521,000 bbls. daily.

A significant feature of the decline is that receipts from the Gulf Coast, usually consisting of gasoline or high grade oil, fell off more sharply than receipts from other sources. These were, in fact, the smallest recorded in two years, averaging 156,000 bbls. daily. The weekly figure is not, of course, as representative as a monthly figure would be, but a decline of the proportions indicated cannot be brushed aside as insignificant.

Some consolation may be had in the fact that a curtailment of refining operations at this time may forestall the necessity of a forced cut in operations later on, and lower prices during the season of heaviest consumption.

The watchword in the eastern refining industry right now is caution. In order for the industry to keep not only on improving, but hold its present gains, oil men here advise all refiners in whatever field they may operate to "put on the brakes" until spring is further advanced.

**Gas Oil in Demand**

There has been considerable of a demand for gas oil from domestic and foreign buyers. It is understood that large contracts for gas oil from local artificial gas manufacturers are in process of being closed. As a rule bids are submitted at the close of December and acted upon in January, but this has been delayed this year.

Contracts for 1924 were made largely with the Standard Oil Co. of New Jersey and Atlantic Refining Co., and called for about 10,000,000 gallons at from 4¼ to 5⅞ cents per gallon. The current market for gas oil here is now 6¾ cents.

Diesel oil and bunker oil are in better demand, with prices firm.

Kerosene continued dull, with little change in the domestic demand. The Standard Oil Co. of New Jersey during the week advanced the tank wagon price in North and South Carolina 1 cent to 14½ and 15 cents per gallon.

**Lubricants Improve**

The automobile demand for lubricating oils continues good, although not so strong as during the latter part of January. The "Smokestack trade," however, is steadily improving. Railroads are entering the market on a larger scale than in 1924.

Prices have undergone no important change here during the week. Cylinder stocks are in demand largely for export.

**Exports Improve**

There has been a distinct revival in the oil export market. Although no hardening in export quotations here has taken place, the actual movement has gained and inquiries indicate a healthy condition over the next three or four months. There was a good bulk movement of gasoline, kerosene and lubricating oils during the past week.

Bulk exports of kerosene aggregated 4,709,722 gallons, including a shipment of 3,714,893 gallons to India by the Standard of New York.

Germany continues to be a large buyer of petroleum products here, as well as in the Gulf Coast. Bulk shipments to that country reported during the week included a cargo of 1,549,839 gallons of lubricating oils, and another cargo containing 994,829 gallons of kerosene and 1,279,188 gallons of gasoline.

The largest cased oil shipment comprised 131,040 cases of kerosene for China. Another lot comprised 75,000 cases of kerosene and 5,000 cases of gasoline to the Dutch East Indies.

The following table shows principal exports of petroleum and petroleum products from New York reported during the past three weeks (figures in gallons unless otherwise stated in parentheses):

| Item, How Shipped— | Week Ended— Mar. 11 | Mar. 4 | Feb. 25 |
|---|---|---|---|
| Gasoline: | | | |
| Bulk | 2,812,551 | ..... | 4,481,638 |
| Cases | 1,274,050 | 1,422,500 | 1,363,860 |
| Kerosene: | | | |
| Bulk | 4,709,722 | ..... | 1,952,471 |
| Cases | 3,821,410 | 1,895,480 | 1,168,000 |
| Gas oil: | | | |
| Bulk | 217,094 | ..... | ..... |
| Lub. oil: | | | |
| Bulk | 1,549,839 | ..... | ..... |
| Barrels | 1,268,800 | 1,079,550 | 1,529,350 |
| Cases | 155,722 | 96,890 | 19,200 |
| Lub. grease: | | | |
| Barrels (bbls.) | 1,115 | 525 | 665 |
| Cases | 3,222 | ..... | ..... |
| Paraffin wax: | | | |
| Bags (lbs.) | 509,740 | 1,139,820 | 1,345,520 |
| Barrels (bbls.) | 2,147 | ..... | ..... |
| Pet. asphalt: | | | |
| Barrels (bbls.) | ..... | 1,217 | ..... |
| Crude oil: | | | |
| Barrels (bbls.) | 6,775 | 3,240 | 6,580 |

Barrel exports of lubricating oil reported during the week ended March 11 aggregated 1,268,800 gallons, and case shipments 155,722 gallons.

Shipments of crude petroleum in barrels have maintained an active level, amounting last week to 6,755 barrels.

**Tanker Charters**

New fixtures in the tanker chartering market included:

Tanker Phoenix, beginning April, three trips, Tampico to New York at 35 cents, or Gulf at 32 cents.

Tanker Sultan Van Langkat (Dutch), April-May delivery, lubricating oil, Houston to Germany, at 35 shillings per ton.

Steamer Pentowy (Br.), 2,182 tons net, 150,000 cases, April loading, New York to Brazil, at 35 cents.

**Oil Receipts**

Receipts of crude and refined oil at Atlantic ports by water during the week ended March 11 averaged 333,000 bbls. daily, comprising 156,000 bbls. daily from the Gulf Coast, 71,000 bbls. daily from the Pacific and imports of 106,000 bbls. daily.

The outlook is for a gain in receipts from the Pacific Coast in the near future, while the movement from the Gulf and Mexico may be restricted temporarily, due to decline in refinery requirements on the Atlantic seaboard.

The following table shows daily average receipts of crude and refined oil by water at Atlantic Coast ports from the Gulf and Pacific Coasts of the United States, and imports, for the last three weeks; also monthly record for the last 12 months (figures in barrels):

| | Week Ended— Mar. 11 | Mar. 4 | Feb. 25 |
|---|---|---|---|
| Gulf Coast | 156,000 | 316,000 | 214,000 |
| Pacific Coast | 71,000 | 23,000 | 99,000 |
| Imports | 106,000 | 167,000 | 204,000 |
| Total | 333,000 | 506,000 | 517,000 |
| **Daily Averages by Months** | | | |
| Feb., 1925 | 262,000 | 51,000 | 147,000 | 460,000 |
| January | 311,000 | 77,000 | 133,000 | 521,000 |
| Dec., 1924 | 306,000 | 83,000 | 85,000 | 474,000 |
| November | 246,000 | 80,000 | 150,000 | 476,000 |
| October | 246,000 | 120,000 | 85,000 | 454,000 |
| September | 270,000 | 104,000 | 101,000 | 475,000 |
| August | 310,000 | 127,000 | 84,000 | 521,000 |
| July | 318,000 | 85,000 | 114,000 | 517,000 |
| June | 302,000 | 133,000 | 136,000 | 571,000 |
| May | 276,000 | 122,000 | 144,000 | 542,000 |
| April | 262,000 | 143,000 | 123,000 | 528,000 |
| March | 201,000 | 137,000 | 130,000 | 468,000 |

The foregoing estimates are based on the capacity of incoming oil-laden tankers.

## GALLONAGE WAR RAGES ON THE PACIFIC COAST

LOS ANGELES, Cal., March 14.—The gallonage war which is raging between the various oil marketing organizations on the Pacific Coast is getting under the skin of a few organizations. Everybody seems to blame everybody else for starting the trouble and no one seems inclined to tke any responsibility for it. The losses to the oil companies are severe. For instance, on commercial business the present discounting practice works out in the following manner: Any commercial consumer of gasoline can fill his requirements at any service station marketing the product of one of the large refining companies at a 1-cent discount, payment due in 30 days. He can then buy a coupon book from any salesman at a discount, payment due in 30 days. He can then buy a coupon book from any salesman at a discount which amounts to 1 cent per gallon and pay for the coupon book in 30 days. By using the coupons to pay for the gasoline which his trucks have received at the service stations, he saves 2 cents a gallon on his gasoline and gets 60 days' time to make payment. When it is considered that it costs the marketing companies about one-fourth cents per gallon to sell and handle coupon books, the presetn arrangement really costs them 2¼ cents per gallon on a very considerable proportion of their commercial gasoline sales. This sort of thing is beginning to hurt.

So far as the volume is concerned, gasoline sales up and down the Pacific Coast are very gratifying. This appears to be particularly true in the southern California districts. A weakening tendency is noticeable in natural gasoline. This is due to two causes. One is that the discounting of service station gasoline has made it hard for the refineries to buy natural gasoline at 3 cents under the retail price of gasoline and blend much of this product with their refinery straight run and yet break even. The other cause is that the big exporting companies are less and less inclined to take on foreign business calling for low end points and other specifications necessitating the blending of 35 to 40 or even 45 per cent of natural gasoline with the straight run product. Most of the recent sales of cargo lots have been in United States Motor Grade gasoline and very little natural gasoline is required to make a first class product meeting these specifications.

The kerosene market remains fairly active. This is particularly true of the foreign cased goods trade.

Lubricating oils have been gathering strength remarkably in the last week or so, and all the important marketers of these oils have now adopted a price schedule approximately 1 cents per gallon higher than that which has ruled for many months past. The effect of the new price schedule will hardly be felt by the marketing concerns for several months as most of them adopted a policy of forcing the writing of new contracts on the old price scale in order to protect their customers against the higher prices now ruling; consequently, the bulk of the lubricating oil sales will not be made at the higher prices until the recently written contracts expire.

Fuel oil remains strong. The ruling tidewater price is $1.60 to $1.65 per barrel, depending on the port at which bunkers are taken on. The price of fuel oil in refining centers such as Los Angeles is holding quite firmly at around $1.30 to $1.40 per barrel.

## MILLION EXPANSION FOR CASPER REFINERY

CASPER, Wyo., March 14.—Expenditure of upwards of $1,000,000 in expansions to its refineries at Casper has been announced by the Standard Oil Co. of Indiana. Plans have been completed and work will begin at once. The expansions will include the construction of 12 additional cracking stills and the erection of many "balloon type" tanks for oil storage, according to T. S. Cooke, manager for the company in the Rocky Mountain district.

The stills will be in operation next September or October, the exact date being dependent on how rapidly the Standard is able to obtain material deliveries. An engineering crew already is at work laying out locations for the new stills.

The new stills will be of a new high pressure Standard of Indiana type designed to increase materially the percentage of crude recovered from the crude oil. The new storage tanks are being designed to effect a savings from the evaporation of gasoline in ordinary tanks. They have been found to be particularly adapted to the manufacture of gasoline out of some of the by-products from the pressure stills now in use in Casper.

The construction job is the largest building program inaugurated by the Standard since the completion of the 1920-1921 program.

Three stills of a similar type as those to be erected at Casper are nearing completion at the Glenrock refinery of the Standard.

## Humphreys Boyd Co. Tried to Delay Test In Henderson County

DALLAS, Tex., March 17.—Derrick is being moved to 450 feet west of the north center line of the G. E. Murphy tract of land and 150 feet south of the north line in the James M. Gardner survey in Henderson County. This is the test which will be drilled by the Humphreys Boyd Oil Co. and Penn and Windsor in which P. N. Wiggins, Jr., and the T. & P. Coal & Oil Co. have an interest.

Officers of the Humphreys Boyd Oil Co. said that their efforts to have Penn and Windsor and the T. & P. Coal & Oil Co. delay the starting of this test for 60 days were unavailing. The Humphreys Boyd Oil Co. took the stand that in the present critical condition of the crude market the industry should not be faced with the threat of a large producing field such as might be opened along the Mexia fault. They say that Penn & Windsor and the T. & P. Coal & Oil Co. insisted on proceeding immediately.

## MONTANA SENATE CUTS GASOLINE TAX PLAN

HELENA, Mont., March 14.—Two bills affecting the oil industry, one having to do with the conservation of oil and gas and the other dealing with the gasoline sales tax, have been passed by the Montana Legislature and now are before the Governor for action.

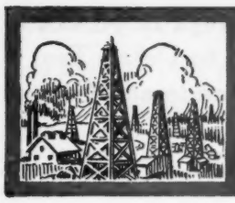
The first bill, Senate Bill No. 29, provides for the conservation of oil or gas under the supervision of the State Public Utilities commission, and prescribes other rules and regulations as called for by the United States Bureau of Mines, or which may be adopted by the bureau hereafter.

The second measure, House Bill No. 330, after being considerably changed by the Senate, provides that the gasoline sales tax of 2 cents a gallon be turned to the county road funds and the general fund of the State. As passed by the House, the bill provided for an increase in the gasoline sales tax from 2 to 3 cents a gallon, all the revenue from which would go to the State Highway Commission. The Senate put the tax back to 2 cents a gallon and eliminated the State Highway Commission.

Heretofore the distribution of the gasoline sales tax revenue has been on a basis of 40 per cent to the school fund, 40 per cent to the general fund of the State and 20 per cent to the State Highway Commission.

## LAKE PETROLEUM CO. OPENS CHICAGO OFFICE

CHICAGO, March 14.—The Lake Petroleum Co., recently organized here by George N. Moore and associates, is settled in its new quarters in the Continental-Commercial Bank Building, 208 South La Salle Street, Chicago. The officers of this organization are George N. Moore, president; T. J. McCormick, vice president, and J. J. Purcell, secretary and treasurer. McCormick will be in charge of the Omaha office; F. E. Gallagher of the Kansas City office and R. C. McIntyre of the Minneapolis office. Mr. Moore formerly was sales manager of the Consumers Refining Co., and subsequently vice president and general manager of the Shaffer Oil & Refining Co., becoming president when Mr. Shaffer sold his holdings to the Byllesby interests. He resigned to form the Moore Refining Co. Mr. McCormick was associated with the Shaffer organization and also has been connected with the Sinclair Refining Co. Messrs. McIntyre and Gallagher have been connected with Mr. Moore in the Shaffer Oil & Refining Co. The company already is doing a general marketing business and it is understood it will be able to announce later an important refinery connection and that it has some plans in connection with a number of stations.



# REFINERY AND CRUDE PRICES

**Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields**

## GASOLINE AND NAPHTHA

| | Mar. 17 | | Mar. 10 | | Mar. 3 | |
|---|---|---|---|---|---|---|
| **OKLAHOMA (Group 3)—** | | | | | | |
| 50-52 450 end point (Naphtha) | .10½ | .10¾ | .11¼ | .11½ | .11¼ | .11½ |
| 56-58 450 end point | .10¾ | .11 | .11½ | .11¾ | .11¾ | .12 |
| 58-60 437 end point (U. S. Motor) | .11 | .10¾ | .11¾ | .12 | .12 | .12¼ |
| 60-62 400 end point | .13 | .13¼ | .13¼ | .13¾ | .13¾ | .14¼ |
| 64-66 375 end point | .14 | .14¼ | .14¾ | .15 | .15 | .15½ |
| 68-70 350 end point | .14½ | | .15¼ | .15½ | .15½ | .15¾ |
| **KANSAS—** | | | | | | |
| 58-60 437 end point (U. S. Motor) | .11 | .11¼ | .12 | .12¼ | .12½ | .12¾ |
| **NORTH TEXAS—** | | | | | | |
| 48-52 450 end point (Naphtha) | .10¼ | .10½ | .11 | .11¼ | .11 | .11¼ |
| 50-52 440 end point (Naphtha) | .10½ | .10¾ | .11¼ | .11½ | .11¼ | .11½ |
| 56-58 450 end point | .10¾ | .11 | .11¾ | .12 | .11¾ | .12 |
| 58-60 437 end point (U. S. Motor) | .10¾ | .11 | .12 | .12¼ | .12 | .12½ |
| 60-62 400 end point | .13 | .13¼ | .13½ | .13¾ | .14 | .14¼ |
| 64-66 390 end point | .13¾ | .14 | .14¾ | .15 | .15 | .15½ |
| 64-66 375 end point | .14 | | .15 | .15¼ | .15¼ | .15¾ |
| 68-70 360 end point | .14½ | .14¾ | .15¼ | .15¾ | .15¾ | |
| **NORTH LOUISIANA—** | | | | | | |
| 56-58 450 end point | .11½ | .11¾ | .11¾ | .12 | .11¾ | .12 |
| 58-60 437 end point (U. S. Motor) | .11¾ | .12 | .12¾ | .13 | .12¾ | .13 |
| 60-62 400 end point | .13½ | .13¾ | .13¾ | .14 | .13¾ | .14 |
| 64-66 390 end point | .14¾ | .15 | .15½ | .15¾ | .16 | .16¼ |
| 64-66 375 end point | .15¼ | .15½ | .15¾ | .16 | .16¼ | .16½ |
| **ARKANSAS—** | | | | | | |
| 58-60 450 end point | .11¼ | .11½ | .12 | .12½ | .12½ | .13 |
| 58-60 437 end point (U. S. Motor) | .11½ | .12 | .12½ | .12¾ | .13 | .13½ |
| 64-66 375 end point | .14½ | .14¾ | .15½ | .15¾ | .16 | .16¼ |
| **ROCKY MOUNTAIN STATES—** | | | | | | |
| *58-60 437 end point (U. S. Motor) | .15 | .15½ | .15 | .15½ | .15¾ | .16 |
| **PENNSYLVANIA—** | | | | | | |
| 52 Naphtha | .14½ | | .14 | | .14¼ | |
| 54 Naphtha | .13¾ | | .14¼ | | .14½ | |
| 56 Gasoline | .14 | | .14½ | | .14¾ | |
| 58 Gasoline | .14¼ | | .14¾ | | .15 | |
| 60 Gasoline | .15 | | .15¼ | | .15½ | |
| 62 Gasoline | .15½ | | .16 | | .16 | |
| 64 Gasoline | .16 | | .16¼ | | .16½ | |
| 66 Gasoline | .17½ | | .18 | | .18 | |
| 68-70 Gasoline | .18½ | | .18½ | | .18½ | |
| **CALIFORNIA—** | | | | | | |
| 54-56 437 end point (U. S. Motor) domestic | .11 | .11½ | .11 | .11½ | .11 | .11½ |
| **CHICAGO DIST., (Based on Group 3)—** | | | | | | |
| 50-52 450 end point (Naphtha) | .11 | .11¼ | .11 | .11½ | .12 | |
| 56-58 450 end point | .11 | .11¼ | .11 | .11½ | .12 | .12¼ |
| 58-60 437 end point (U. S. Motor) | .11 | .11½ | .11½ | .12 | .12½ | .13 |
| 60-62 400 end point | .13 | .13½ | .13¾ | .14 | .14¼ | .14½ |
| 64-66 375 end point | .14 | .14½ | .14½ | .15 | .15¼ | .15¾ |
| 68-70 360 end point | .14¾ | .15¼ | .15¼ | .15¾ | .16 | .16½ |

## NATURAL GASOLINE

| | Mar. 17 | | Mar. 10 | | Mar. 3 | |
|---|---|---|---|---|---|---|
| **OKLAHOMA (Group 3)—** | | | | | | |
| ⎧Grade Double A, 80-87.9, 375 e.p., rec. 90% | .10¼ | .10½ | .11¼ | .11½ | .12¼ | .12½ |
| ⎩Grade A, 72-79.9, 375 end point, rec. 90% | .10½ | | .11¼ | .11½ | .12¼ | .12½ |
| ⎧Grade Double B, 84-92, 375 e.p., rec. 95% | .09¾ | .10 | .10¼ | .10½ | .11¼ | .11½ |
| ⎩Grade B, 76-83.9, 375 end point, rec. 85% | .09¾ | .10 | .10¼ | .10½ | .11¼ | .11½ |
| Grade C, 80-90, 375 end point, rec. 78% | .09 | | .09¾ | .10 | .10½ | .10¾ |
| **NORTH TEXAS—** | | | | | | |
| ⎧Grade Double A, 80-87.9, 375 e.p., rec. 90% | .10½ | .10½ | .11¼ | .11½ | .12 | .12¼ |
| ⎩Grade A, 72-79.9, 375 end point, rec. 90% | .10¼ | .10½ | .11¼ | .11½ | .12 | .12¼ |
| ⎧Grade Double B, 84-92, 375 e.p., rec. 85% | .09¾ | .10 | .10¼ | .10½ | .11 | .11¼ |
| ⎩Grade B, 76-83.9, 375 end point, rec. 85% | .09¾ | .10 | .10¼ | .10½ | .11 | .11¼ |
| Grade C, 80-90, 375 end point, rec. 78% | .09 | | .09¾ | .10 | .10½ | .10¾ |
| **NORTH LOUISIANA—** | | | | | | |
| Grade A, 72-79.9, 375 end point, rec. 90% | .11¾ | .12 | .12½ | .12¾ | .13½ | .13¾ |
| Grade B, 76-83.9, 375 end point, rec. 85% | .10½ | .10¾ | .11½ | .11¾ | .12½ | .12¾ |
| Grade C, 80-90, 375 end point, rec. 78% | .10 | .10¼ | .10¾ | .11 | .12 | .12¼ |
| **CALIFORNIA—** | | | | | | |
| 68-80 absorption, 360-390 end point | .13 | .13½ | .13 | .13½ | .13½ | .14 |
| 78-84 compression, 350 end point | .13½ | | .13½ | | .13¾ | |
| **CHICAGO DIST., (Based on Group 3)—** | | | | | | |
| ⎧Grade Double A, 80-87.9, 375 e.p., rec. 90% | .10½ | .10¾ | .11½ | .11¾ | .12½ | .12¾ |
| ⎩Grade A, 72-79.9, 375 end point, rec. 90% | .10½ | .10¾ | .11½ | .11¾ | .12½ | .12¾ |
| ⎧Grade Double B, 84-92, 375 e.p., rec. 85% | .10 | .10¼ | .10½ | .10¾ | .11½ | .11¾ |
| ⎩Grade B, 76-83.9, 375 end point, rec. 85% | .10 | .10¼ | .10½ | .10¾ | .11½ | .11¾ |
| Grade C, 80-90, 375 end point, rec. 78% | .09 | .09¼ | .10 | .10¼ | .10¾ | .11 |

## MOTOR NATURAL GASOLINE (BLENDS)

| | Mar. 17 | | Mar. 10 | | Mar. 3 | |
|---|---|---|---|---|---|---|
| **OKLAHOMA (Group 3)—** | | | | | | |
| 60-62 450 end point | .10½ | | .11¼ | .11¾ | .11¾ | .12 |
| 64-66 437 end point | .10½ | | .11¼ | .11¾ | .11¾ | .12 |
| 68-70 430-435 end point | .10½ | | .11¼ | .11¾ | .11¾ | .12 |
| **NORTH TEXAS—** | | | | | | |
| 58-62 440 end point | .10½ | | .11½ | .11¾ | .11¾ | .12 |
| 58-60 450 end point | .10½ | | .11½ | .11¾ | .11¾ | .12 |
| **PENNSYLVANIA—** | | | | | | |
| *60-62 | .15 | | .15 | | .15½ | |
| *64-66 | .15 | | .15 | | .15½ | |
| *66-68 | .15¼ | | .15¼ | | .15¾ | |
| *68-70 | .15¼ | | .15¼ | | .15¾ | |
| **CHICAGO DIST., (Based on Group 3)—** | | | | | | |
| 60-62 450 end point | .10¼ | .10½ | .11¼ | .11½ | .12 | .12¼ |
| 64-66 450 end point | .10¼ | .10½ | .11¼ | .11½ | .12 | .12¼ |
| 68-70 437 end point | .10½ | .10¾ | .11½ | .11¾ | .12¼ | .12½ |

*At Sistersville, W. Va.

## BURNING OIL

| | Mar. 17 | | Mar. 10 | | Mar. 3 | |
|---|---|---|---|---|---|---|
| **KANSAS—** | | | | | | |
| 41-43 water white Kerosene | .05 | | .05¼ | .05½ | .05¼ | .05½ |
| **NORTH LOUISIANA—** | | | | | | |
| 41-43 prime white Kerosene | .05 | .05¼ | .05½ | .05¾ | .05¾ | .06 |
| 42-44 water white Kerosene | .05¼ | .05½ | .05¾ | .06 | .06 | .06¼ |
| **OKLAHOMA (Group 3)—** | | | | | | |
| 41-43 water white Kerosene | .04½ | .04⅝ | .04⅝ | .04⅞ | .04¾ | .05 |
| 42-44 water white Kerosene | .04⅝ | .04⅞ | .05 | .05¼ | .05 | .05¼ |
| 40-41 prime white Kerosene | .04¼ | | .04½ | .04¾ | .04½ | .04¾ |
| **ROCKY MOUNTAIN STATES—** | | | | | | |
| *40-42 water white Kerosene | .07¾ | .08 | .07¾ | .08 | .07¾ | .08 |
| **NORTH TEXAS—** | | | | | | |
| 41-43 water white Kerosene | .04½ | .04⅝ | .04⅝ | .04¾ | .04¾ | .05 |
| 40-42 prime white Kerosene | .04¼ | .04½ | .04½ | .04¾ | .04½ | .04¾ |
| 41-43 prime white Kerosene | .04¼ | .04½ | .04½ | .04¾ | .04½ | .04¾ |
| 42-44 water white Kerosene | .04¾ | .04⅞ | .05 | .05¼ | .05 | .05¼ |
| **ARKANSAS—** | | | | | | |
| 41-43 water white Kerosene | .05 | .05¼ | .05½ | .05¾ | .05½ | .05¾ |
| 42-44 water white Kerosene | .05¼ | .05½ | .05¾ | .06 | .05¾ | .06 |
| **PENNSYLVANIA—** | | | | | | |
| 43 Kerosene prime white | .07½ | | .07½ | | .07½ | |
| 45 Kerosene water white | .07¼ | | .07¼ | | .07⅝ | |
| 46 Kerosene water white | .08 | | .08 | | .08 | |
| 47 Kerosene water white | .08½ | | .08½ | | .08½ | |
| 34 Neutral | .08¾ | | .08¾ | | .08¾ | |
| 34 Sundebloomed Neutral | .10 | | .10 | | .10 | |
| 36 Miners' Neutral | .08 | | .08 | | .08 | |
| 300 Mineral Seal | .08 | | .08¼ | | .08 | |
| **CALIFORNIA—** | | | | | | |
| 40-42 water white (high burning test) | .07½ | .08 | .07½ | .08 | .07½ | .08 |
| Eingine distillate, 43-45 445 end point | .08½ | .09 | .08½ | .09 | .08½ | .09 |
| Engine distillate, 42-44 480 end point | .07¾ | .08 | .07¾ | .08 | .07¾ | .08 |
| **CHICAGO DIST., (Based on Group 3)—** | | | | | | |
| 41-43 water white Kerosene | .04½ | .04⅝ | .04⅝ | .04¾ | .04¾ | .05 |
| 42-44 water white Kerosene | .04¾ | .04⅞ | .04¾ | .04⅞ | .05 | .05¼ |

*Colorado points.

## FUEL OILS

| | Mar. 17 | | Mar. 10 | | Mar. 3 | |
|---|---|---|---|---|---|---|
| **KANSAS—** | | | | | | |
| 24-26 Fuel Oil | 1.30 | 1.35 | 1.40 | 1.45 | 1.40 | 1.45 |
| 32-36 Gas Oil | .03⅝ | .03¾ | .03¾ | .03⅞ | .03¾ | .03⅞ |
| 38-40 Distillate | .03¾ | .03⅞ | .03⅞ | .04 | .03⅞ | .04 |
| **OKLAHOMA (Group 3)—** | | | | | | |
| 22-26 Fuel Oil (sellers' cars) | 1.12½ | 1.15 | 1.17½ | 1.22½ | 1.20 | 1.22½ |
| 24-26 Fuel Oil (buyers' cars) | 1.12½ | 1.15 | 1.20 | | 1.20 | |
| 24-26 Fuel Oil (sellers' cars) | 1.15 | | 1.20 | 1.25 | 1.20 | 1.25 |
| 28-30 Fuel Oil (sellers' cars) | 1.20 | 1.25 | 1.30 | | 1.30 | |
| 32-36 Gas Oil | .03⅜ | .03½ | .03½ | .03⅝ | .03½ | .03⅝ |
| 36-38 Distillate | .03⅝ | | .03¾ | | .03¾ | |
| 38-40 Straw distillate | .03⅝ | .03¾ | .03¾ | .03⅞ | .03¾ | .03⅞ |
| **NORTH TEXAS—** | | | | | | |
| 24-26 Fuel Oil (sellers' cars) | 1.25 | 1.30 | 1.35 | | 1.35 | |
| 26-30 Fuel Oil | 1.35 | | 1.40 | 1.45 | 1.40 | 1.45 |
| 32-36 Gas Oil | .03½ | .03⅝ | .03⅝ | .03¾ | .03⅝ | .03¾ |
| 36-38 Distillate | .03⅝ | .03¾ | .03¾ | .03⅞ | .03¾ | .03⅞ |
| 38-40 Straw distillate | .03¾ | .04 | .03⅞ | .04 | .03⅞ | .04 |
| **NORTH LOUISIANA—** | | | | | | |
| 18-20 Fuel Oil | 1.20 | 1.25 | 1.25 | 1.30 | 1.25 | 1.30 |
| 32-36 Gas Oil | .03½ | .03¾ | .03¾ | .04 | .03⅞ | .04 |
| **ARKANSAS—** | | | | | | |
| 38-40 Distillate | .04 | .04¼ | .04 | .04¼ | .04 | .04¼ |
| 32-36 Gas Oil | .03¾ | .03⅞ | .04 | | .04 | |
| 22-26 Refinery Fuel Oil | 1.15 | 1.20 | 1.25 | 1.30 | 1.30 | |
| **GULF COAST, (South Texas)—** | | | | | | |
| Gas Oil | .04¾ | .05½ | .05 | .05½ | .05 | .05¼ |
| Fuel Oil | 1.65 | 1.70 | 1.70 | 1.80 | 1.70 | 1.80 |
| **PENNSYLVANIA—** | | | | | | |
| 30-34 Fuel Oil | .05⅞ | | .05⅞ | | .06¼ | |
| 36-40 Fuel Oil | .06½ | | .06½ | | .07 | |
| **CALIFORNIA—** | | | | | | |
| 33-36 Distillate | .04¾ | .05 | .04¾ | .05 | .04¾ | .05 |
| 27-33 Distillate | .04 | .04½ | .04½ | .04¾ | .04¼ | .04¾ |
| 15-20 Fuel Oil (at tide water) | 1.60 | 1.65 | 1.60 | 1.65 | 1.60 | 1.65 |
| **CHICAGO DIST., (Based on Group 3)—** | | | | | | |
| 24-26 Fuel Oil (sellers' cars, Group 3) | 1.20 | 1.25 | 1.20 | 1.25 | 1.22½ | 1.27½ |
| 22-24 (El Dorado) | 1.25 | | 1.25 | | 1.25 | 1.30 |
| 18-20 (Smackover) | 1.20 | 1.25 | 1.20 | 1.25 | 1.25 | 1.30 |
| 32-36 Gas Oil | .03⅝ | .03¾ | .03⅝ | .03¾ | .03⅝ | .03¾ |
| 36-38 Distillate | .03⅝ | | .03⅝ | | .03¾ | .04 |
| 38-40 Straw distillate | .03¾ | | .03¾ | | .03⅞ | .04 |

## LUBRICATING OILS AND WAX

| | Mar. 17 | | Mar. 10 | | Mar. 3 | |
|---|---|---|---|---|---|---|
| **OKLAHOMA (Group 3)—** | | | | | | |
| Neutrals: | | | | | | |
| 70-80 vis., 2½ color, 20-25 cold test | .07 | .07½ | .07 | .07½ | .07 | .07½ |
| 100 vis., 2 color, 20-25 cold test | .08½ | .09 | .08½ | .09 | .08½ | .09 |
| 100 vis., 3 color, 20-25 cold test | .08 | .08½ | .08 | .08½ | .08 | .08½ |
| 150 vis., 3 color, 20-25 cold test | .10½ | .11 | .10½ | .11 | .10½ | .11 |
| 150 vis., 4 color, 20-25 cold test | .10¼ | .10¾ | .10¼ | .10¾ | .10¼ | .10¾ |
| 180 vis., 4 color, 23-28 cold test | .10¾ | .11¼ | .10¾ | .11¼ | .10¾ | .11¼ |
| 180 vis., 3 color, 23-28 cold test | .11 | .11½ | .11 | .11½ | .11 | .11½ |
| 200 vis., 3 color, 23-28 cold test | .12 | .12½ | .12 | .12½ | .12 | .12½ |
| 200 vis., 4 color, 23-28 cold test | .11¾ | .12¼ | .11¾ | .12¼ | .11¾ | .12¼ |
| 220 vis., 3 color, 25-30 cold test | .12 | .12½ | .12 | .12½ | .12 | .12½ |
| 220 vis., 4 color, 25-30 cold test | .13½ | .14 | .13½ | .14 | .13½ | .14 |
| 240 vis., 3 color, 25-30 cold test | .16 | .16½ | .16 | .16½ | .16 | .16½ |
| 240 vis., 4 color, 25-30 cold test | .15½ | .16 | .15½ | .16 | .15½ | .16 |
| 280 vis., 3 color, 25-30 cold test | .17½ | .18 | .17½ | .18 | .17½ | .18 |
| 280 vis., 4 color, 25-30 cold test | .16½ | .17 | .16½ | .17 | .16½ | .17 |
| Red Neutrals: | | | | | | |
| 180 vis., 5 color, 23-28 cold test | .10½ | .11 | .10½ | .11 | .10½ | .11 |
| 180 vis., 6 color, 23-28 cold test | .14½ | .15 | .14½ | .15 | .14½ | .15 |
| 200 vis., 5 color, 23-28 cold test | .11½ | .12 | .11½ | .12 | .11½ | .12 |
| 200 vis., 6 color, 23-28 cold test | .15½ | .16 | .15½ | .16 | .15½ | .16 |
| 220 vis., 5 color, 25-30 cold test | .13½ | .14 | .13½ | .14 | .13½ | .14 |
| 220 vis., 6 color, 25-30 cold test | .17¼ | .17¾ | .17¼ | .17¾ | .17¼ | .17¾ |
| 240 vis., 5 color, 25-30 cold test | .15 | .15½ | .15 | .15½ | .15 | .15½ |
| 240 vis., 6 color, 25-30 cold test | .18¼ | .18¾ | .18¼ | .18¾ | .18¼ | .18¾ |

# REFINERY AND CRUDE PRICES

**Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields**

| | | | | | | |
|---|---|---|---|---|---|---|
| 280 vis., 5 color, 25-30 cold test | .15½ | .16 | .15½ | .16 | .15½ | .16 |
| Cylinder Stocks— | | | | | | |
| 180-200 vis., S. R. green, 40-45 cold test | .10½ | .11 | .10½ | | .10½ | .11 |
| 180-200 vis., S. R. green, 40-45 cold test | .10 | .10½ | .10 | | .10 | .10½ |
| 170-190 dark green, 40-45 cold test | .08 | | .08 | | .08 | .09 |
| 600, E filtered | .21¾ | | .21¾ | | .21¾ | |
| 190-200 vis. @ 210 "D" Bright Stock | .36 | | .36 | | .36 | |
| 200-210 vis. @ 210 "E" Bright Stock | .31 | | .31 | | .31 | |
| 150 vis. @ 210 "D" Bright Stock | .32 | | .32 | | .32 | |
| 150 vis. @ 210 "E" Bright Stock | .38 | | .38 | | .38 | |
| Waxes: | | | | | | |
| 124-126 White Crude Scale Wax | .05 | .05¼ | .05 | .05¼ | .05 | .05¼ |
| PENNSYLVANIA— | | | | | | |
| 150, 3 color | .21½ | | .21½ | | .22 | |
| 180, 3 color | .23½ | | .23¾ | | .24½ | |
| 200, 3 color | .25½ | | .25¾ | | .26 | |
| 220, 3 color | .28¼ | | .28½ | | .28½ | |
| 600, steam refined | .22½ | | .22½ | | .23½ | |
| 635, steam refined | .26½ | | .28 | | .28½ | |
| 650, steam refined | .28½ | | .29½ | | .31 | |
| 600, Pennsylvania flash | .39½ | | .39½ | | .35 | |
| 630, Pennsylvania flash | .40 | | .40 | | .40 | |
| *550, E filtered | .24 | | .24 | | .24 | |
| *600, E filtered | .26½ | | .27½ | | .27½ | |
| 600, E filtered | .25½ | | .26 | | .26½ | |
| 600, D filtered | .32½ | | .32½ | | .32½ | |
| 550, E filtered | .23 | | .23 | | .23 | |
| 550, D filtered | .27 | | .27 | | .27 | |
| Pennsylvania Bright Stock | .39 | | .40½ | | .40½ | |
| 122-124 White Crude Scale Wax | .05½ | | .05½ | | .05¾ | |
| †124-126 White Crude Scale Wax | .05⅝ | | .05⅞ | | .05⅞ | |

*At Warren, Pa. †At New York City.

| | | | | | | |
|---|---|---|---|---|---|---|
| GULF COAST, (South Texas)— | | | | | | |
| Zero Black | .07 | .08 | .07 | .08 | .07 | .08 |
| No. 2 color, 100 vis., pale oil | .10½ | .11½ | .10½ | .11½ | .10½ | .11½ |
| No. 2 color, 150 vis., pale oil | .12 | .13 | .12 | .13 | .12 | .13 |
| No. 3 color, 200 vis., pale oil | .15 | .16 | .15 | .16 | .15 | .16 |
| No. 3 color, 300 vis., pale oil | .17 | .18 | .17 | .18 | .17 | .18 |
| No. 3½ color, 500 vis., pale oil | .19 | .20 | .19 | .20 | .19 | .20 |
| No. 3½ color, 750 vis., pale oil | .24½ | .25½ | .24½ | .25½ | .24½ | .25½ |
| No. 4½ color, 1200 vis., pale oil | .27½ | .28½ | .27½ | .28½ | .27½ | .28½ |
| No. 4½ color, 2000 vis., pale oil | .31 | .32 | .31 | .32 | .31 | .32 |
| No. 2 plus color, 150 vis., pale filtered | .23½ | | .23½ | | .23½ | |
| No. 2 plus color, 200 vis., pale filtered | .25 | | .25 | | .25 | |
| No. 2½ minus color, 300 vis., pale filtered | .28½ | | .28½ | | .28½ | |
| No. 2½ color, 500 vis., pale filtered | .32½ | | .32½ | | .32½ | |
| No. 2½ color, 800 vis., filtered | .42½ | | .42½ | | .42½ | |
| No. 5 to 6 color, 200 vis., red oil | .13½ | .14½ | .13½ | .14½ | .13½ | .14½ |
| No. 5 to 6 color, 300 vis., red oil | .15½ | .16½ | .15½ | .16½ | .15½ | .16½ |
| No. 5 to 6 color, 500 vis., red oil | .17½ | .18½ | .17½ | .18½ | .17½ | .18½ |
| No. 5 to 6 color, 750 vis., red oil | .22½ | .23½ | .22½ | .23½ | .22½ | .23½ |
| CALIFORNIA— | | | | | | |
| 130 pale, 2½-3 color | .12 | .12½ | | | | |
| 200 vis., 2½-3 color | .15½ | .16 | .14½ | .15½ | .14½ | .15½ |
| 300 vis., 3 -3½ color | .17 | .17½ | .16 | .17 | .16 | .17 |
| 350 vis., 3½-4 color | .18½ | .19 | .17½ | .18½ | .17½ | .18½ |
| 400 vis., 3½-4 color | .20 | .20½ | .19 | .20 | .19 | .20 |
| Red Neutrals: | | | | | | |
| 200 vis., 4½-5 color | .14 | .14½ | .13 | .14 | .13 | .14 |
| 300 vis., 5 -6 color | .15 | .15½ | .14 | .15 | .14 | .15 |
| 400 vis., 5 -6 color | .17 | .17½ | .16 | .17 | .16 | .17 |
| 500 vis., 4½-5 color | .20 | .21 | | | | |
| 500 vis., 6 -6½ color | .18 | .19 | .17 | .18 | .17 | .18 |
| 6 vis., 6½ plus color | .19 | .19½ | .18 | .19 | .18 | .19 |

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

## NEW YORK DOMESTIC MARKET

| Bayonne Refinery Prices: | Mar. 17 | Mar. 10 | Mar. 3 |
|---|---|---|---|
| U. S. Motor Gasoline, 58-60 437 | .18 | .18 | .18 |
| *Bunker Oil, 14-16 Be. | 1.80 | 1.80 | 1.80 |
| *Diesel Oil, 28-30 Be. | 2.70 | 2.70 | 2.70 |
| Furnace Oil, New York City | .10 | .10 | .10 |
| Gas Oil, 32-36 Be. | .06¾ | .06¾ | .06¾ |
| 41-43 Kerosene prime white | .06¾ | .06¾ | .07½ |

*Lighterage, 6.5c a barrel extra.

## NEW YORK EXPORT PRICES

| Motor Gasoline: | Mar. 17 | Mar. 10 | Mar. 3 |
|---|---|---|---|
| 58-60 Be. gravity, in cases | .30.15 | .30.15 | .30.15 |
| U. S. Navy, in bulk | .16 | .16 | .16 |
| Naphtha: | | | |
| 60° F., 59-61 Be. gravity, in bulk | .18¾ | .18¾ | .18¾ |
| 60° F., 63-66 Be. gravity, in bulk | .20 | .20 | .20 |
| 60° F., 66-68 Be. gravity, in bulk | .21½ | .21½ | .21½ |
| Kerosene: | | | |
| Standard white, 40-42 Be. grav., in bulk | .06½ | .06½ | .06½ |
| Standard white, 40-42 Be. grav., in barrels | .13½ | .13½ | .13½ |
| Standard white, 40-42 Be. grav., in cases | .16.9 | .16.9 | .16.9 |
| Water white, 42-44 Be. grav., in bulk | .07½ | .07½ | .07½ |
| Water white, 42-44 Be. grav., in barrels | .14½ | .14½ | .14½ |
| Water white, 42-44 Be. grav., in cases | .17.9 | .17.9 | .17.9 |
| †Lubricating Oils: | | | |
| Cylinder Stock, extra filtered, 600, barrels | .46½ | .46½ | .46½ |
| Cylinder Stock, light filtered, 600, barrels | .40½ | .40½ | .40½ |
| No. 1 white neutral, .878 spec. grav. | .43 | .43 | .43 |
| No. 1 Summer Black, .895 spec. grav. | .19 | .19 | .19 |
| No. 5 Bright Stock, .897 spec. grav. | .50½ | .50½ | .50½ |
| Special "A" red oil, .897 spec. grav., 170 vis. | .21 | .21 | .21 |
| No. 2 red oil, .903 spec. grav., 212 vis. | .22 | .22 | .22 |
| No. 1 red oil, .905 spec. grav., 295 vis. | .23 | .23 | .23 |
| Polar red oil, .906 spec. grav., 295 vis. | .25 | .25 | .25 |
| Pale oil, "25", .899 spec. grav. | .20½ | .20½ | .20½ |
| Pale oil, "28", .892 spec. grav. | .16 | .16 | .16 |
| Paraffin Wax: | | | |
| 120-122 a.m.p., per lb. | .06¼ | .06¼ | .06¼ |
| 125-127 a.m.p., per lb. | .06¾ | .06¾ | .06¾ |
| 130-132 a.m.p., per lb. | .06⅞ | .06⅞ | .06⅞ |
| 135-137 a.m.p., per lb. | .07½ | .07½ | .07½ |

†All lube prices in barrels.

## LOS ANGELES EXPORT PRICES

| | Mar. 17 | Mar. 10 | Mar. 3 |
|---|---|---|---|
| Kerosene water white | .05½ .06 | .05 .05½ | .05 .05½ |
| U. S. Motor gasoline, 54-56, 437 end point | .10½ .11 | .10½ .11 | .10½ .11 |

## CRUDE OIL PRICES

(Crude Price Changes on Page 122)

**Arkansas and North Louisiana**

| | |
|---|---|
| Caddo, 38° and above | $2.05 |
| 35° to 37.9° | 1.95 |
| 32° to 34.9° | 1.85 |
| Below 32° | 1.70 |
| Homer, 35° and above | 1.80 |
| 32° to 34.9° | 1.70 |
| 31° to 32.9° | 1.60 |
| Below 31° | 1.45 |
| Haynesville, 33° and above | 1.70 |
| Below 33° | 1.60 |
| El Dorado, 33° and above | 1.70 |
| Below 33° | 1.60 |
| Bull Bayou, 38° and above | 1.85 |
| 35° to 37.9° | 1.70 |
| 32° to 34.9° | 1.55 |
| Cotton Valley | 1.25 |
| De Soto | 1.90 |
| Crichton | 1.70 |
| Bellevue | 2.00 |
| *Stephens, Ark: | |
| Below 26° | 1.40 |
| 26° and above | 1.60 |
| Smackover: | |
| Below 25° | 1.15 |
| 25° to 25.9° | 1.25 |
| 26° to 26.9° | 1.35 |
| 27° to 27.9° | 1.40 |
| 28° and above | 1.45 |
| 28° and above | 1.60 |

*Posted by Atlantic Oil Producing Co.

**Wyoming and Montana**

| | |
|---|---|
| Rock Creek (Wyo.) | 2.00 |
| Salt Creek | 1.60 |
| Big Muddy | 2.00 |
| Mule Creek | 1.50 |
| Grass Creek (light) | 2.15 |
| Elk Basin | 2.15 |
| Lance Creek | 2.15 |
| Osage | 2.15 |
| Cat Creek (Mont.) | 2.15 |
| Sunburst (Mont) | 1.40 |
| Lost Soldier | 1.28 |
| Greybull and Torchlight | 2.00 |
| Hamilton Dome | 1.60 |
| Hogback, N. Mex. | 2.20 |

Lost Soldier and Lander based on contracts.

**Oklahoma, Kansas, North and Central Texas**

Prairie Oil & Gas Co. and other major purchasing companies, except as noted:

| | |
|---|---|
| Below 30° | 1.35 |
| 30° to 32.9° | 1.55 |
| 33° to 35.9° | 1.80 |
| 36° to 38.9° | 2.00 |
| 39° to 41.9° | 2.25 |
| 42° and above | 2.35 |
| Sinclair Crude Oil Purchasing Co.— | |
| 39° to 41.5° | 2.25 |
| 41.6° and above | 2.35 |
| Magnolia Petroleum Co.: | |
| Below 28° | 1.00 |
| 28° to 30.9° | 1.35 |
| 31° to 32.9° | 1.55 |
| Corsicana light | 2.00 |
| Corsicana heavy | 1.00 |
| Mexia and Wortham | 2.00 |

**Humble Oil & Refining Co.**

| | |
|---|---|
| Powell, Currie, Richland | 2.00 |
| Mexia and Wortham | 2.00 |
| Moran crude: | |
| Below 30° gravity | 1.35 |
| 30° to 32.9° | 1.55 |
| 33° to 35.9° | 1.80 |
| 36° and above | 2.00 |

Ranger and North Texas, same as Prairie.

**Gulf Coast**

| | |
|---|---|
| Grade "A" | 2.00 |
| Grade "B" | 1.75 |
| Luling (based on contracts) 90c and | 1.15 |
| Laredo (Magnolia Petroleum Co.) | .85 |
| Rockdale-Minerva (Milam County) | 1.25 |
| Calliham (Live Oak-McMullen) | 1.15 |
| Webb, Jim Hogg, Zapata | 1.00 |
| *High Island | 1.20 |

*Posted by Sun Co.

***Somerset**

| | |
|---|---|
| Below 30° | 1.25 |
| 30° to 32.9° | 1.35 |
| 33° to 35.9° | 1.80 |
| 36° to 38.9° | 1.95 |
| 39° to 41.9° | 2.10 |
| 42° and above | 2.35 |

Posted by Grayburg Oil Co.

**California**

| | |
|---|---|
| 14° to 19.9° | $1.23 |
| 20° to 20.9° | 1.27 |
| 21° to 21.9° | 1.30 |
| 22° to 22.9° | 1.33 |
| 23° to 23.9° | 1.36 |
| 24° to 24.9° | 1.40 |
| 25° to 25.9° | 1.44 |
| 26° to 26.9° | 1.48 |
| 27° to 27.9° | 1.52 |
| 28° to 28.9° | 1.56 |
| 29° to 29.9° | 1.60 |
| 30° to 30.9° | 1.64 |
| 31° to 31.9° | 1.68 |
| 32° to 32.9° | 1.72 |
| 33° to 33.9° | 1.76 |
| 34° to 34.9° | 1.80 |
| 35° and above | 1.85 |
| Rosecrans-Athens Field, only: | |
| Below 35.9° gravity, same as other fields. | |
| 36° to 36.9° | 1.92 |
| 37° to 37.9° | 2.00 |
| 38° to 38.9° | 2.08 |
| 39° to 39.9° | 2.16 |
| 40° to 40.9° | 2.24 |
| 41° to 41.9° | 2.33 |
| 42° and above | 2.40 |

**Eastern States**

| | |
|---|---|
| Penna Grade Oil in New York Transit Lines | 3.85 |
| Bradford District Oil in National Transit Lines | 3.85 |
| Penna Grade Oil in National Transit Lines | 3.75 |
| Penna Grade Oil in Southwest Pa. Pipe Lines | 3.75 |
| Penna Grade Oil in Eureka Pipe Line Lines | 3.75 |
| Penna Grade Oil in Buckeye Pipe Line Lines | 3.75 |
| Cabell Grade Oil in Eureka Pipe Line Lines | 2.20 |
| Corning Grade Oil in Buckeye Pipe Line Lines | 2.25 |
| Somerset Medium Oil in Cumberland Pipe Line Lines | 2.30 |
| Somerset Light Oil in Cumberland pipe Line Lines | 2.45 |
| Ragland Grade Oil in Cumberland Pipe Line Lines | 1.30 |
| Lima | 2.33 |
| Wooster | 2.25 |
| Illinois | 2.12 |
| Indiana | 2.13 |
| Princeton | 2.12 |
| Plymouth | 1.65 |
| Waterloo | 1.20 |
| †Oil Springs, Canada | 2.80 |
| †Petrolia, Canada | 2.73 |
| *Western Kentucky, 36° and above | 2.05 |
| *Western Kentucky, 33° to 35.9° | 1.95 |
| *Western Kentucky 32.9° and below | 1.85 |
| Cumberland, Barren and Monroe Counties (Kentucky), (Paragon Development Co.) | 2.45 |

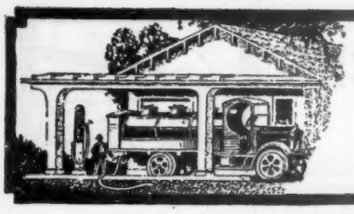
†Plus Government bounty of 26½c.

*Prices for Warren, Allen, Hancock, Simpson and Ohio Counties by Indian Refining Co.

**Mexican Crude**

| | |
|---|---|
| *Tuxpam (f.o.b. Mexican ports) | $1.36 |
| †Panuco (f.o.b. Mexican ports) | 1.26 |
| Tuxpam (New York) | 1.90 |
| Panuco (New York) | 1.76 |

*Plus 33.00c tax. †Plus 20.00c tax.



# TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns, March 17

## ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

### STANDARD OIL CO. (INDIANA)

**Main Service Station Price**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incids tax of | Tank wagon |
| Chicago Dist.— | | | | |
| †100 gals. or more | 18.0 | 21.0 | ... | 12.0 |

Tank wagon prices on April 19, 1922; g. up 1½c; May 8, g. up 1c; June 27, both up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g up 1c; Feb. 30, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 29, g. up 2c; Jan. 12, 1924, g. up 2c, k. up 1c; Feb. 5, g. up 2c, k. 1c; July 18, g. down 1c; July 30, g. and k. down 1c; Sept. 12, g. down 2c; Jan. 23, 1925, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Feb. 12, g. up 2c, k. up 1c.

| | | | | |
|---|---|---|---|---|
| Decatur, Ill. | 18.2 | 20.2 | ... | 12.5 |
| East St. Louis | 17.1 | 19.35 | ... | 11.6 |
| Joliet | 18.4 | 20.4 | ... | 12.5 |
| Peoria | 18.2 | 20.2 | ... | 12.5 |
| Quincy | 18.2 | 20.2 | ... | 12.3 |
| Davenport, Ia. | 18.5 | 20.5 | ... | 12.9 |
| Des Moines | 18.5 | 20.5 | ... | 12.9 |
| Keokuk | 18.5 | 20.5 | ... | 12.9 |
| Sioux City | 18.0 | 20.0 | ... | 12.5 |
| Duluth, Minn. | 19.5 | 21.5 | ... | 13.6 |
| Minneapolis | 19.2 | 21.2 | ... | 13.6 |
| La Crosse, Wis. | 19.2 | 21.2 | ... | 13.4 |
| Milwaukee | 18.1 | 20.1 | ... | 12.3 |
| Madison | 18.3 | 20.3 | ... | 12.5 |
| Detroit, Mich. | 20.8 | 22.8 | 2.0 | 13.2 |
| Grand Rapids | 20.7 | 22.7 | 2.0 | 13.1 |
| Saginaw | 20.9 | 22.9 | 2.0 | 13.3 |
| Evansville, Ind. | 20.0 | 22.0 | 2.0 | 12.5 |
| Fort Wayne | 20.4 | 22.4 | 2.0 | 12.9 |
| Indianapolis | 20.2 | 22.2 | 2.0 | 12.7 |
| South Bend | 20.4 | 22.4 | 2.0 | 12.9 |
| Fargo, N. D. | 20.9 | 22.9 | 1.0 | 15.6 |
| Huron, S. D. | 22.0 | 24.0 | 2.0 | 14.1 |
| Sioux Falls | 21.5 | 23.5 | 2.0 | 13.6 |
| *Kansas City, Mo. | 20.9 | 22.9 | 3.0 | 11.3 |
| *Springfield | 20.8 | 22.8 | 3.0 | 12.2 |
| *St. Louis | 19.6 | 21.9 | 2.5 | 12.0 |
| *St. Joseph | 20.0 | 22.0 | 2.5 | 11.9 |
| Wichita, Kans. | 17.8 | 19.8 | ... | 10.8 |
| Bartlesville, Okla | 19.4 | 21.4 | ... | 10.9 |

*State tax is 2c. Remainder is city tax.
†Tank wagon price on less than 100 gallons. 19.0.

### ATLANTIC COAST DISTRICT

**Standard Oil Co. (New Jersey)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incids tax of | Tank wagon |
| Newark, N. J. | 19.0 | 21.0 | ... | 13.0 |
| Atlantic City | 19.5 | .... | ... | 13.0 |
| Annapolis, Md. | 22.0 | 24.0 | 2.0 | 12.0 |
| Baltimore | 21.0 | 23.0 | 2.0 | 11.0 |
| Cumberland | 22.0 | 24.0 | 2.0 | 12.5 |
| Washington, D. C. | 21.0 | 23.0 | 2.0 | 12.5 |
| Norfolk, Va. | 23.0 | 25.0 | 3.0 | 13.5 |
| Petersburg | 23.0 | .... | 3.0 | 13.5 |
| Danville | 23.0 | .... | 3.0 | 13.0 |
| Richmond | 22.0 | 24.0 | 3.0 | 13.5 |
| Roanoke | 23.0 | 25.0 | 3.0 | 13.5 |
| Keyser, W. Va. | 21.0 | .... | 2.0 | 13.5 |
| Charleston | 20.0 | 22.0 | 2.0 | 13.5 |
| Parkersburg | 20.0 | 22.0 | 2.0 | 13.5 |
| Wheeling | 20.0 | 22.0 | 2.0 | 13.5 |
| Charlotte, N. C. | 23.0 | 25.0 | 3.0 | 14.5 |
| Hickory | 23.0 | .... | 3.0 | 14.5 |
| Mt. Airy | 23.0 | .... | 3.0 | 14.5 |
| Salisbury | 23.0 | .... | 3.0 | 14.5 |
| Charleston, S. C. | 23.0 | 25.0 | 3.0 | 15.0 |
| Columbia | 23.0 | 25.0 | 3.0 | 15.0 |

### PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

**Atlantic Refining Co.**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incids tax of | Tank wagon |
| *Pittsburgh, Pa. | 19.0 | 24.0 | ... | 14.0 |
| *Philadelphia | 19.0 | 24.0 | ... | 14.0 |
| *Scranton | 19.0 | 24.0 | ... | 14.0 |
| *Allentown | 19.0 | 24.0 | ... | 14.0 |
| *Altoona | 19.0 | 24.0 | ... | 14.0 |
| *Erie | 19.0 | 24.0 | ... | 14.0 |
| Dover, Del. | 21.0 | 24.0 | 2.0 | 14.0 |
| Wilmington | 21.0 | 24.0 | 2.0 | 14.0 |
| Springf'ld, Mass. | 21.0 | 25.0 | ... | 13.0 |
| Worcester, Mass. | 21.0 | 25.0 | ... | 13.0 |
| Boston | 21.0 | 25.0 | ... | 11.0 |
| Providence, R. I. | 21.0 | 25.0 | ... | 13.0 |
| Hartford Conn. | 22.0 | 26.0 | 1.0 | 13.0 |
| New Haven Conn. | 22.0 | 26.0 | 1.0 | 13.0 |

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

### CENTRAL SOUTH DISTRICT

**Standard Oil Co. (Louisiana)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incids tax of | Tank wagon |
| New Orleans La. | 20.5 | 22.5 | 2.0 | 11.0 |
| Alexandria | 20.5 | 22.5 | 2.0 | 12.0 |
| Baton Rouge | 19.0 | 21.0 | 2.0 | 11.5 |
| Lake Charles | 20.5 | 22.5 | 2.0 | 12.0 |
| Shreveport | 20.5 | 22.5 | 2.0 | 13.0 |
| Memphis, Tenn. | 21.0 | 23.0 | 3.0 | 14.0 |
| Chattanooga | 22.5 | 24.5 | 3.0 | 14.5 |
| Knoxville | 23.5 | 25.5 | 3.0 | 15.0 |
| Nashville | 22.5 | 24.5 | 3.0 | 13.5 |
| Bristol | 24.0 | 26.0 | 3.0 | 13.5 |
| Little Rock, Ark. | 23.0 | 25.0 | 4.0 | 11.0 |

### SOUTHERN DISTRICT

**Standard Oil Co. (Kentucky)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incids tax of | Tank wagon |
| Atlanta, Ga. | 24.0 | 27.0 | 3.0 | 13.0 |
| Augusta | 24.0 | 27.0 | 3.0 | 15.0 |
| Macon | 24.0 | 27.0 | 3.0 | 14.5 |
| Savannah | 23.0 | 26.0 | 3.0 | 13.0 |
| Birmingham, Ala. | 22.0 | 25.0 | 2.0 | 14.5 |
| Mobile | 21.0 | 24.0 | 2.0 | 12.5 |
| *Montgomery | 23.0 | 26.0 | 3.0 | 15.5 |
| Clarksdale, Miss. | 23.0 | 25.0 | 3.0 | 12.0 |
| Jackson | 22.0 | 25.0 | 3.0 | 10.0 |
| Natchez | 21.5 | 24.5 | 3.0 | 11.5 |
| Vicksburg | 21.5 | 24.5 | 3.0 | 11.5 |
| Jacksonville, Fla. | 22.0 | 25.0 | 3.0 | 13.0 |
| Miami | 24.0 | 27.0 | 3.0 | 14.5 |
| Pensacola | 22.0 | 25.0 | 3.0 | 13.5 |
| Tampa | 22.0 | 25.0 | 3.0 | 13.0 |
| Lexington, Ky. | 22.0 | 25.0 | 3.0 | 14.0 |
| Covington | 20.0 | 23.0 | 3.0 | 14.0 |
| Louisville | 22.0 | 24.0 | 3.0 | 13.0 |

*In addition to the State tax of 2 cents on gasoline. Montgomery has city tax of 1 cent on gasoline and ½ cent on kerosene.

### SOUTHWESTERN DISTRICT

**Magnolia Petroleum Co.**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incids tax of | Tank wagon |
| Dallas, Texas | 17.0 | 21.0 | 1.0 | 12.0 |
| Fort Worth | 17.0 | 21.0 | 1.0 | 12.0 |
| Houston | 17.0 | 21.0 | 1.0 | 12.0 |
| San Antonio | 17.0 | 20.0 | 1.0 | 12.0 |
| El Paso | 19.0 | 22.0 | 1.0 | 13.0 |
| Muskogee, Okla. | 20.0 | 23.0 | 2.5 | 12.0 |
| Oklahoma City | 20.0 | 23.0 | 2.5 | 12.0 |
| Tulsa | 20.0 | 23.0 | 2.5 | 11.0 |
| Ft. Smith, Ark. | 21.5 | 24.5 | 4.0 | 12.0 |
| Little Rock | 23.0 | 25.0 | 4.0 | 11.0 |
| Texarkana | 10.0 | 22.0 | 1.0 | 12.0 |

### ROCKY MOUNTAIN DISTRICT

**Continental Oil Co.**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incids tax of | Tank wagon |
| Casper, Wyo. | 20.0 | 22.0 | 1.0 | 13.0 |
| Cheyenne | 21.5 | 23.5 | 1.0 | 14.5 |
| Albuquerque, N. M. | 24.5 | 27.5 | 1.0 | 16.5 |
| Salt Lake, Utah | 23.0 | 25.0 | 2.5 | 13.0 |
| Denver, Colo. | 21.0 | 23.0 | 3.0 | 14.5 |
| Pueblo | 21.0 | 23.0 | 3.0 | 14.5 |
| Butte, Mont. | 23.0 | 23.0 | 3.0 | 16.0 |
| Helena | 25.0 | 27.0 | 3.0 | 17.0 |
| Boise, Idaho | 24.5 | 26.5 | 3.0 | 20.0 |

### NEW YORK AND PART OF NEW ENGLAND DISTRICT

**Standard Oil Co. (New York)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incids tax of | Tank wagon |
| Albany, N. Y. | 21.0 | .... | ... | 13.0 |
| *New York | 21.0 | .... | ... | 13.0 |
| Buffalo | 21.0 | .... | ... | 12.0 |
| Rochester | 21.0 | .... | ... | 13.0 |
| Syracuse | 21.0 | .... | ... | 13.0 |
| Boston, Mass. | 21.0 | .... | ... | 13.0 |
| Providence, R. I. | 21.0 | .... | ... | 13.0 |
| Augusta, Me. | 22.0 | .... | 1.0 | 13.0 |
| Manchester, N. H. | 23.0 | .... | 3.0 | 13.0 |
| Burlington, Vt. | 23.0 | .... | 1.0 | 13.0 |

*Price in steel barrels.
Note: Standard Oil Co. of New York does not generally quote service station price in its territory. In most cases the service station price is 2 or 3 cents higher than tank wagon price.

### PACIFIC COAST DISTRICT

**Standard Oil Co. of California**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incids tax of | Tank wagon |
| San Francisco | 17.0 | 20.0 | 2.0 | 15.5 |
| Los Angeles | 15.5 | 18.5 | 2.0 | 15.5 |
| Fresno | 17.5 | 20.5 | 2.0 | 19.5 |
| Reno, Nev. | 20.5 | 23.5 | 2.0 | 19.0 |
| Portland, Ore. | 18.0 | 21.0 | 3.0 | 16.5 |
| Seattle, Wash. | 17.0 | 20.0 | 3.0 | 16.5 |
| Tacoma | 17.0 | 20.0 | 3.0 | 16.5 |
| Spokane | 21.0 | 24.0 | 3.0 | 20.5 |
| Phoenix, Ariz. | 23.0 | 26.0 | 3.0 | 21.5 |

### OHIO

**Standard Oil Co. (Ohio)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incids tax of | Tank wagon |
| All Ohio points | 18.5 | 20.5 | ... | 15.0 |

### NEBRASKA

**Standard Oil Co. (Nebraska)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incids tax of | Tank wagon |
| Omaha | 16.0 | 18.0 | ... | 12.5 |
| Crawford | 19.0 | .... | ... | 13.25 |
| McCook | 19.75 | 21.75 | ... | 14.0 |
| Norfolk | 18.75 | 20.75 | ... | 13.0 |
| North Platte | 19.75 | 21.75 | ... | 13.75 |
| Scotts Bluff | 19.25 | 21.25 | ... | 13.25 |

### TANK WAGON CHANGES

March 12.—Continental Oil Co. advanced tank wagon prices of gasoline at Butte and Helena, Mont., and Boise, Idaho, 1 cent.

March 16.—Standard Oil Co. of Kentucky advanced the tank wagon price of gasoline at Augusta, Ga., 1½ cents.

### CRUDE PRICE CHANGES

March 10.—The Ohio Oil Co. advanced the following crude prices: Grass Creek, light and Elk Basin 15 cents to $2.15; Lance Creek, 20 cents to $2.15; Rock Creek, 30 cents to $2; Big Muddy, 40 cents to $2; Osage, 20 cents to $2.15; Cat Creek, 15 cents to $2.15; and Hog Back New Nexico, 15 cents to $2.20.

March 12.—The Standard of Louisiana reduced the price of Cotton Valley and Smackover crudes 15 cents a barrel. Changes met by The Texas Co. and Gulf Refining Co.

March 16—Ohio Oil Co. advanced Mule Creek crude 25 cents.

## PRINCIPAL PRODUCTS LOWER IN OKLAHOMA

(Continued from Page 20)

same time result in an easier crude market which will at least prevent further advances. This adjustment in crude market and refinery operations apparently is the only solution to the present situation and those who keep in close touch with market conditions are hoping that it develops in time to prevent a duplication of 1923 and 1924 when it required the greater part of each year to remedy conditions brought about by premature advances in petroleum products.

**Crude Price Trend**

The reduction in Smackover crude last week brought forth predictions that similar action would result in all fields of the Mid-Continent. Although in an unsettled situation such as now exists anything is possible, most market observers do not expect any general downward revision in crude prices even if the refined market as established by independent refiners should continue soft for several weeks. Past experience under similar conditions supports this view. The Smackover decline is explained as being due to the decline in fuel oil prices and a local condition in which higher crude prices served to increase greatly field operations with excellent prospects of increasing production. The Smackover crude is all of low gravity of value primarily as fuel oil.

**Gasolines and Naphtha**

Domestic buying of gasoline was less this week than last and so far as known there were no new purchases for export in Oklahoma. There were numerous rumors regarding export purchases of both the U. S. Motor and aviation grades but the principal export buyers in this area are authority for the statement that they have not been in the market.

Both export and domestic buyers are still waiting for the bottom in prices before they again enter the market. Several large jobbers who have been buying regularly got out of the market last week stating they would not be interested in additional purchases until the sellers ceased to lower their prices. Many buyers have more confidence in the market than the sellers but they are naturally not inclined to purchase when each transaction they make looks bad from their standpoint a day or two after it is made.

It is also said the Standard Oil Co. of New Jersey is not making additional contracts with refiners for the 375 and 300 grades, based on the company's export price at Baton Rouge. The contracts for 375 grade are netting the Oklahoma refiner 14.55 cents and this price is now one-half cent higher than the general asking price for the same grade on the open market. Refiners having the contract fear another reduction in the base export price provided the open market does not stiffen.

The 58-60 U. S. Motor gasoline grade slumped rapidly during the past week. Several refiners, including a few of the larger concerns, were anxious to secure immediate shipment and they daily lowered their asking price to jobbers and marketers. The price has been holding fairly steady at 11 cents and the spread of 11 to 11¼ cents covers the general market at this writing. However, these quotations were being shades slightly on Monday and Tuesday and if the demand does not improve lower prices will prevail before the end of the week.

The 60-62, 400 grade was available at 13 cents with buyers offering as low as 12¼ cents in expectation of being able to purchase near that price by the end of the week. There was practically no demand for the 68-70 grades.

A majority of the refiners reported that naphthas are as sluggish as gasolines. One refiner at least believes this demand will improve soon, stating his company had received several inquiries duging the past few days. This he believes to be due to the low prices for natural gasolines and the prospect of still lower prices which will make it possible for the blenders to become active again.

**Kerosenes and Distillates**

Both kerosenes and distillates are soft. Jobbers report a satisfactory demand from consumers in the rural sections of the Middle West. But competition among refiners to secure the jobbers' business is keen and prices again slipped during the past week. The demand is for all grades. The lower prices prevailing for other products has caused a few refiners to still manufacture distillates despite the low prices which were again reduced one-eighth-cent during the past week. Straw distillates were available at 3⅝ cents.

**Fuel and Gas Oils**

One of the reasons for the slump in fuel oil prices was the reduction in Smackover crude prices previously mentioned. This resulted in lower prices in Arkansas and sellers in other areas quickly met the reduction. Grades between 20 degrees and 26 degrees gravity sold at $1.15 to $1.20. The range in the higher gravities was from $1.20 to $1.30. Lower gravities which are high in sulphur content sold as low as $1.07½. There was considerable activity in gas oil. Some sales have been made to refiners who will use the gas oil as cracking stock. The Texas Co. was reported to have purchased 100 cars for delivery at Port Arthur. The prevailing price for 32-36 is 3⅜ to 3½ cents.

**Natural Gasolines**

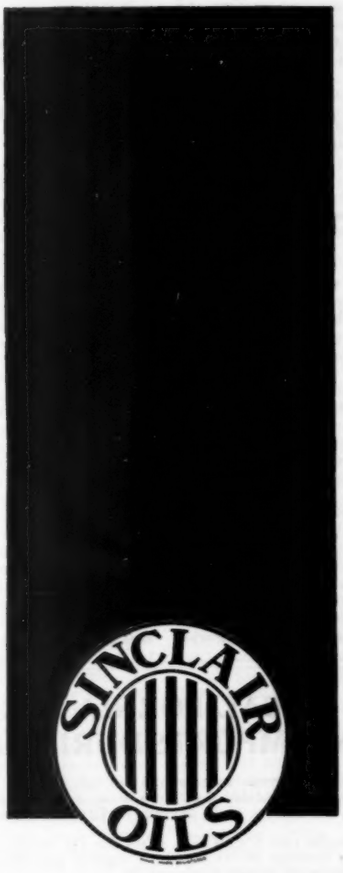
Natural gasolines are probably the weakest product in the market insofar as current demand is concerned. Fortunately, several of the larger manufacturers have considerable empty storage and this is an important aid in the general market. Refiners are still not buying except on contract. One concern which has both a refinery and natural gasoline plant was offering material during the past week stating that it was running its refinery gasoline to storage and did not need the natural gasoline at this time.

Grade A dropped to 10½ cents although it is the strongest grade. Grade Double A was available as low as 10¼ cents. The B grades were offered freely at 10 cents. Grade C was weak at 9 to 9½ cents.

**Lubs and Wax**

The demand for lubricants was fair during the past week. There were at least two export inquiries for cylinder stocks with several good domestic sales. The neutral demand is not as active as the manufacturers hope it will be within the next month. Wax prices are unchanged with no important sales reported during the past week.

# SINCLAIR OILS




THE convenient location of Sinclair refineries and warehouses—the ready reserve stock of Sinclair Oils—Sinclair's tank trucks and tank cars—tankers of our affiliated companies—these facilities for prompt deliveries give our customers a feeling of satisfaction and security in placing their orders for Sinclair Oils.

*"From a Can to a Cargo"*

SINCLAIR REFINING COMPANY

New York: Sinclair Oil Building, 45 Nassau Street Chicago: 111 West Washington Street

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# Gasoline Quality Better; Price Less

## Part Played by Natural Gasoline Manufacturers in the Expansion of Supply Told to A. O. M. A. at Kansas City

By A. V. Bourque*

En route to Tulsa from Kansas City several weeks ago I struck up an acquaintance with a young man in the smoking room of the Pullman. Our conversation turned naturally to gasoline. I say naturally, advisedly, for it is one of the most widely discussed commodities on the market today.

My companion was, until recently, an avaitor. He told of an incident which occurred about a year ago. It seems he was flying his ship and ran out of gasoline. None of the brand he had been using was available and he reluctantly purchased enough of another brand to carry him to his destination. "Do you know," he said, "my companion and I were scared to death until we landed safely." The gasoline he purchased as a substitute for the kind he regularly used is manufactured by one of the largest refineries in this country. It is as good, no doubt, as the brand he had been using. It speaks well for the advertising department of the first mentioned concern but it also testifies to the woeful lack of knowledge of the gasoline industry which prevails generally throughout this nation.

This paper does not treat in a technical sense of the manufacture of gasoline, whether it be good or better gasoline. It aims to point out the necessity for selling a high grade product and to point out and impress upon the buying publice the merit of the high grade commodity which the average car owner only knows as gasoline.

There is no other product on the market with which the buying public comes into such intimate contact and knows so little about, as gasoline. To the ordinary man, gasoline is a clear liquid sold through a visible or non-visible container, which, when put in his auto makes the car run. He does not know how it is made; he does not know what enters into the manner of manufacture; he does not know what constitutes the cost of manufacture; he does not know any of the ingredients; he does not even know what gasoline does in a motor; all he knows is, that if there is any in his tank, his car will run. He knows enough to say "gimme five gallons" and to squawk at the price.

### Quality Better, Price Less

I said in the beginning that this was no technical paper on how to make better gasoline nor do I mean to infer that the present grade of gasoline sold throughout the country is not good. On the contrary, it is the "better gasoline" referred to. In too many places one hears the remark that so and so's gasoline is no good and yet I will venture to say that I know of not one refiner in America today who is not only making good gasoline but far better gasoline than at any time since the early days of the industry when the extremely high gravity gasoline of limited output supplied the small demands of the few internal combustion engines on the market at that time.

"In the bright lexicon of youth there is no such word as 'fail.'" The quotation might properly read "in the bright history of the oil industry there is no such thing as poor gasoline." It is safe to assert that among all of the essential commodities used by man, gasoline has improved equally in quality. In fact, the quality of many of our essentials has deteriorated while the prices for same have steadily increased. On the other hand, the quality of gasoline has been improved while the price has declined.

It is true the high gravity gasoline of the early days might have been a superior fuel compared to today's product. But it must be remembered that the supply of the first named grade was infinitesimal compared to the present output. At that time there were approximately 500,000 automobiles compared to the 17,000,000 or more cars today. It was the greatest good to the greatest number and the refiner was forced to turn his attention to the manufacture of a product which would not only be able to meet the demand but be good motor fuel as well. It is the superiority of the present grade over the first lower gravity motor fuel manufactured that is referred to in the paragraph immediately above.

For a number of years the Bureau of Mines has conducted semi-annual surveys to determine the changes in motor natural gasoline being sold in the United States. In the Bureau of Mines' bulletin dated February, 1920, the following statement is made:

"For a period of several years beginning with 1915 there has been a continuous change in the quality of motor gasoline. The average volatility has decreased due to the fact that higher boiling fractions of the crude oil have been included in the gasoline. This change in quality was made necessary by the tremendous increase in the demand for motor fuel caused by the development of the motor car, and during the war was an absolute necessity to avoid gasoline shortages.

### Bureau of Mines Verdict

During the period from January 17 to February 3, 1920, 81 samples of motor gasoline were collected by representatives of the Bureau of Mines in seven districts of the United States—in every case the samples collected were taken in such a manner as to represent material actually being sold as motor fuel and to include samples from every refiner marketing in the district. About a year previous in April, 1919, a much more comprehensive survey of motor gasolines, including more than 800 samples, sold throughout the United States, was made by the Bureau of Mines. Samples were collected in every State and in nearly every important city in the country. The data obtained in this survey was used by the Committee on Standardization of Petroleum Specifications for setting a new specification for Federal purchases of motor gasoline, which was adopted November 25, 1919. The complete report of this 1919 survey was included in Bulletin 191 of the Bureau of Mines, entitled 'Commercial Gasoline,' by H. H. Hill and E. W. Dean. The later survey was undertaken to find out how much change had occurred in the quality of motor gasoline since the 1919 survey—in order to observe yearly and seasonal changes in quality of motor gasoline."

This bulletin contains a chart giving the general averages of the two surveys and the bulletin adds: "From this chart it will be seen that in each case the average curve would meet the Federal specifications and throughout the greater part of the distillation range the gasoline represented by it is considered more volatile than the specification requires. At the 90 per cent and dry points the average gasoline is very close to the specification."

The Bureau of Mines bulletin dated July, 1920, says:

"It has been common knowledge in the petroleum industry that the volatility of motor gasoline manufactured for sale during the summer months is less than that of gasoline made and sold in the winter. A year ago when the Bureau of Mines was making plans to institute semi-annual surveys of the motor gasolines sold throughout the United States, this fact was taken into consideration. It was decided that the last half of January would be the most satisfactory time to take samples representing the winter grades of gasoline; and the last half of July was adopted as the time to take the summer samples. The second semi-annual survey has just been completed and the analytical results appreciably show that there has been a greater decrease in the volatility of motor gasoline than can be accounted for as the normal change from winter to summer quality. On comparing the average for the whole country with the same average for January, 1920, and with the Federal specifications, it will be noted that the distillation curve for July, 1920, practically parallels the January curve up to about the 75 per cent point. It is considered probable, therefore, that the change in volatility up to this point is due to the normal variation from winter to summer quality. About the 75 per cent point the whole curve rises very rapidly and crosses the curve to the specification for Federal purchases. Part of this rise is undoubtedly normal, as representing the usual seasonal change in quality; part of the increase is due to a few samples which contained much kerosene thus raising the average of the whole series.

### Increase in Volatility

These two factors, however, are not sufficient to account for the entire rise in boiling points. The remainder is probably due to the increase in the demand for motor fuel over previous years. To obtain sufficient gasoline to supply this demand it has evidently been necessary for the refiners to cut deeper into the crude oil thus adding somewhat to the amount of high boiling material marketed as motor gasoline.

Under date of February, 1921, the Bureau of Mines issued its third semi-annual motor gasoline survey, a part of which reads as follows:

"The Bureau of Mines made its first survey of motor gasolines sold throughout the United States in 1915, a second in 1917, and a third in April, 1919. These surveys showed that motor gasolines had become notably less volatile during each two-year interval. In order to ascertain whether this change was continuing, it was planned to institute semi-annual surveys, the first of which was made in January, 1920. Contrary to expectations based on the previous surveys, the average volatility of the gasoline tested at this time was practically identical with that of the average volatility of the gasoline from the same districts in 1919. The next survey, made in July, 1920, showed a very marked decrease in volatility but as it has long been recognized that the volatility of motor gasoline manufactured for sale during the summer months is less than that of gasoline made and sold during the winer, part at least of the change was attributed to this factor.

"The average boiling point of the samples collected in the present survey is 263 degrees Fahrenheit, compared with 264 a year ago. This shows that the average gasoline marketed at the present time is fully as volatile as that marketed a year ago. There has been, however, a noticeable change in the character of the product; the initial boiling point and 20 per cent point are lower than a year ago, whereas the 90 per cent and end points are higher, which indicates a greater proportion of gasolines made by blending casinghead or natural gas gasoline, and naphtha."

The fourth semiannual survey wa- in-

*Secretary Association Natural Gasoline Manufacturers. Before Convention American Oil Men's Association, Kansas City.

## RECEIPTS OF CALIFORNIA OILS AND IMPORTS DURING FEBRUARY

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the month of February totaled 1,669,000 bbls., a daily average of 59,607 bbls., compared with 2,251,000 bbls., a daily average of 72,613 bbls. for the month of January.

Receipts at Atlantic and Gulf Coast ports for the week ended March 7 totaled 488,000 bbls., a daily average of 69,714 bbls., against 482,000 bbls., a daily average of 68,857 bbls. for the week ended February 28.

| At Atlantic Coast Ports | Total February | Total January | Wk. End. March 7 | Wk. End. Feb. 28 |
|---|---|---|---|---|
| Baltimore | 181,000 | *310,000 | ..... | ..... |
| Boston | 75,000 | 70,000 | ..... | ..... |
| New York | 991,000 | *1,277,000 | 254,000 | 383,000 |
| Philadelphia | 175,000 | 334,000 | 74,000 | 99,000 |
| Others | 81,000 | 260,000 | 160,000 | ..... |
| Total | 1,503,000 | 2,251,000 | 488,000 | 482,000 |
| Daily average | 53,679 | 72,613 | 69,714 | 68,857 |
| At Gulf Coast Ports— | | | | |
| New Orleans and Baton Rouge | 166,000 | ..... | ..... | ..... |
| Daily average | 5,923 | ..... | ..... | ..... |
| Total Atlantic and Gulf Coast Ports | 1,669,000 | 2,251,000 | 488,000 | 482,000 |
| Daily average | 59,607 | 72,613 | 69,714 | 68,857 |

*Revised.

According to figures collected by the American Petroleum Institute, imports of crude and refined oils at the principal ports for the month of February totaled 6,575,000 bbls., a daily average of 234,821 bbls., compared with 7,380,000 bbls., a daily average of 238,065 bbls. for the month of January.

Imports at the principal United States ports for the week ended March 7 totaled 1,498,000 bbls., a daily average of 214,000 bbls., compared with 2,236,000 bbls., a daily average of 319,429 bbls. for the week ended February 28.

| At Atlantic Coast Ports | Total February | Total January | Wk. End. March 7 | Wk. End. Feb. 28 |
|---|---|---|---|---|
| Baltimore | 441,000 | 565,000 | 201,000 | 102,000 |
| Boston | 475,000 | 503,000 | 124,000 | 185,000 |
| New York | 1,747,000 | 1,952,000 | 462,000 | *874,000 |
| Philadelphia | 180,000 | 269,000 | 155,000 | 60,000 |
| Others | 938,000 | 849,000 | 65,000 | 348,000 |
| Total | 3,782,000 | 4,138,000 | 1,007,000 | 1,569,000 |
| Daily average | 135,071 | 133,484 | 143,857 | 224,143 |
| At Gulf Coast Ports— | | | | |
| Galveston district | 894,000 | 908,000 | 158,000 | 148,000 |
| New Orleans and Baton Rouge | 1,281,000 | 1,763,000 | 313,000 | *345,000 |
| Port Arthur and Sabine district | 448,000 | 444,000 | ..... | 129,000 |
| Tampa | 170,000 | 127,000 | 20,000 | 45,000 |
| Total | 2,793,000 | 3,242,000 | 491,000 | 667,000 |
| Daily average | 99,750 | 104,581 | 70,143 | 95,286 |
| At All U. S. Ports— | | | | |
| Total | 6,575,000 | 7,380,000 | 1,498,000 | 2,236,000 |
| Daily average | 234,821 | 238,065 | 214,000 | 319,429 |

*Revised.

sued by the Bureau of Mines in August, 1921, a portion of which is herewith reproduced:

"The Bureau of Mines motor gasoline surveys have been conducted in January and July, during 1920 and 1921. The Bureau has obtained and analyzed samples of gasoline representative of that marketed in the larger cities. These surveys have indicated that the gasoline on the market during the winter months is more volatile than that sold during the summer months. Naturally, the motorist desires a more volatile gasoline in the cold winter months, as it affords greater ease in starting.

**Quality Much Better**

"The fourth semiannual motor gasoline survey conducted during the month of July shows an interesting relation between the market price and the quality of motor gasoline. This is particularly evident if figures obtained today are compared with those of a year ago. At the time the Bureau of Mines conducted its summer survey of motor gasoline last year, the average tank wagon price of gasoline was 28.2 cents per gallon. This year it was 21.2 cents, a drop of practically 25 per cent.

"In spite of this drop in price, the quality of gasoline today is much better than it was last summer, in fact, the average gasoline today is almost identical in quality with the average gasoline sold last winter."

The fifth semiannual report issued in February, 1922, says in part:

"The present survey shows that the quality of gasoline being sold during the present winter is on the whole similar to that sold a year ago."

The sixth semiannual report issued in August, 1922, says in part:

"The present survey shows that for the districts in which samples were collected, the average gasoline is becoming more volatile instead of less so, as is sometimes supposed. This year's gasoline is much more volatile than that sold two years ago, and it has a somewhat better distillation range than last summer's samples. A comparison of the average figures for several years shows that motor gasoline is also becoming more uniform in character. The large seasonal change is disappearing, but 'winter gasoline' still has a lower initial boiling point than 'summer gasoline.' This difference in volatility is made intentionally to facilitate starting the motor in cold weather. The end point shown in the present survey is slightly lower either than that of last winter or of the summer of 1921."

In February, 1925, the seventh semiannual report was issued by the bureau which says in part:

"The present survey shows that the tendency toward an increase in volatility which was noted six months ago is still present and that the seasonal variation from summer to winter grades is apparently slowly decreasing. A careful review of the data obtained in the previous surveys, beginning with that of 1917, shows that there is a tendency toward greater uniformity in the character of gasoline marketed in the United States."

The eighth semiannual report issued in September, 1923, points out that there had been a slight raising of the end point over January, 1923, the average difference in 158 samples collected being 17 degrees. The bulletin continues "the seasonal variation from summer to winter, though still present, has nearly reached an apparent state of minimum fluctuation. Comparison of the July, 1922, and July, 1923, surveys shows on the whole very little difference in the boiling point range of the gasoline sold through July, 1922, and that sold during July, 1923. Comparison of January, 1923, and July, 1923, surveys brings out distinctly the difference between summer and winter gasolines. The differences indicate a seemingly slight decrease in volatility in the gasoline sold during the present summer. A distillation curve was plotted representing the grand average of the analyses since January, 1923, survey, together with one which represents a motor gasoline meeting Federal specifications. The average survey curve shows well below that meeting Federal specifications and conforms in general shape very closely to the specification curve."

**Effect of Natural Gasoline**

In the Bureau's ninth semi-annual survey dated February, 1924, one reads:

"In comparison with the January, 1923, survey, an appreciable decrease in the initial boiling point is shown from the January, 1924, averages. In connection with the general decided decrease in the average for the initial boiling point, and the appreciable decrease for the average for the 20 per cent point it is interesting to note that all samples passed Federal specifications for the 20 per cent point and all but four passed Federal specifications for the initial boiling point. A distillation curve was plotted representing the grand average of the analyses for the January, 1924, survey together with a curve representing the distillation as given in Federal specifications for motor gasoline. The average survey curve shows well within the limits of the Federal specifications, moreover, it conforms in general shape very closely to the specification curve. The averages for the initial boiling point, 20 per cent and 50 per cent points are considerably lower than the requirements for Federal specifications."

"In the September, 1924, bulletin, tenth semiannual motor gasoline survey, the latest issued, one reads:

"In comparison with the July, 1923, survey, the average initial boiling point for the July, 1924, survey, shows an appreciable decrease. On the whole, it seems that a better grade of gasoline is now being marketed than was marketed during the same season a year ago. Comparison on the averages for the nine districts shows that there was an appreciable decrease in the initial boiling point, a decrease in the end point and 20 per cent point, and an increase in the 90 per cent point."

Thus it will be noted, from Government figures, that better gasoline is being manufactured and marketed and sold to the consuming public, but this would not be possible were it not for the improved methods of manufacture, and especially the continued use of natural gasoline. The improvement in the quality of gasoline, as well as the increased output to supply the tremendous demand, has been made possible by the development of the natural gasoline industry. This is clearly shown by the bureau's surveys from August, 1921, that date being about the time natural gasoline began finding favor with the refiners, which favor has grown until that product is now recognized as the ideal blending material necessary for the manufacture of better gasoline.

Great strides have been made in the improvement of the internal combustion engine. Manufacturers advertise every season changes, which they claim are for the better. Carburetors have been changed and improved and a great deal of study and effort have been made to improve the motor in order to give increased mileage per gallon of gasoline, for which the motor manufacturer must be given a great deal of praise. These improvements, however, are not the result of having to meet changing conditions in the quality of gasoline. The motorist knows, if he has gasoline in his tank and the car won't run, it is the fault of the mechanics and not gasoline which causes the trouble. Year in and year out the refiner has gone on making good gasoline and the motor car manufacturer makes his improvements with the thought of poor gasoline as the least of his worries.

It was just the other day that an article appeared in a Chicago paper to the effect that the oil industry was making such poor gasoline that it was injurious to automobiles and it was claimed that it was largely because we blend and mix and do a lot of undesirable things with gasoline. That statement is false.

It is a fact that most gasoline marketed is a combination of straight-run and natural gasoline but that combination makes a superior motor fuel as refiners will attest. The claim that gasoline is being blended with undesirable ingredients cannot be substantiated. Government figures for 1924 show a total consumption of gasoline in this country alone of 7,780,625,030 gallons and it is doubtful if even a very small percentage of this enormous amount was not good motor fuel.

As great as has been the development of the internal combustion engine, the development of the gasoline industry has been even greater. It is not the purpose to bore you with a lot of statistics but I would like to point out that before the internal combustion engine was invented the total gasoline production of the United States was only 281,000,000 gallons. Five years later the production had increased to 290,000,000 a gain of only 9,000,000 gallons in that period. From that point on the internal combustion engine became a factor in the transportation of this country and of the world and in 1909 a total production of 540,000,000 gallons of gasoline was recorded, a gain of 250,000,000 gallons in that period.

**Production Keeps Pace**

With the rapid increase in the production of motor cars and trucks came a startling increase in the production of gasoline manufactured to take care of the demand which had grown to large proportions. In the five-year period ending with 1919 a more remarkable increase was shown, the production at the end of that year being 3,958,000,000 gallons and the close of 1924 found the gasoline industry making 8,959,000,000 gallons of gasoline in a single year. Thus, we find in that year, production of gasoline showed an increase over 1899 of 8,677,000,000 gallons or approximately 3,100 per cent. It will be seen, therefore, regardless of the terrific increase in consumption, production has not only kept pace with demand but the 1924 figures show a surplus over consumption of approximately 1,100,000,000 gallons.

Prior to the advent of the automobile, crude oil was run through refineries for its kerosene content and what little gasoline was being manufactured was considered a byproduct and the gasoline fractions were allowed to escape in the air as vapor or used for heating and lighting. With the coming of the automobile, however, the demand for gasoline soon surpassed the demand for kerosene and the entire theory of refinery operation changed and gasoline soon became the leading factor in refinery operations.

I have referred to blended gasoline, same being a combination of straight run gasoline and natural gasoline, or naphtha and natural gasoline. A few years ago, straight run gasoline was practically the only type of gasoline on the market and many automobil users had been educated to demand that grade. They felt that the later blended varieties were inferior substitutes. As a matter of fact, however, the greater part of the

# WHAT IS WRONG IN MARKET SYSTEM DISCUSSED BEFORE A. O. M. A. SESSION

By Paul B. Erickson

*Golden Rule Refining Co., Wichita, Kans., before American Oil Men's Association, Kansas City*

What is wrong with our gasoline marketing system as a business which will return a fair margin of profit on the investment?

Doctor Jardine, the newly appointed Secretary of Agriculture at Washington, recently in making an address said our national problem was to reduce the cost of getting products from the producer to the consumer, and frankly stated that many retailers now in business will have to be eliminated. For a minute I thought he was talking about us gasoline marketers, for can anyone of us deny too much duplication in marketing expense? Do we in our sober moments deny that the public could be very well served with our products through one-half the pumps now in place for operation?

Any time an industry shows a nice profit it is always going to be overdone in proportion to how little money it takes to get into it, and heaven knows that from the end of the war down to this day it has required little more than a wish to get into the filling station business. Now as a direct result of this duplication of marketing cost which makes necessary a wide margin between tank car and tank wagon price, we are suffering from some very indigestible conditions: For example, we have the tendency of groups of the larger consumers doing cooperative buying and distributing. The only really worth while drive-in station in our town of 100,000 people is a cooperative station, doing last year between 400,000 and 500,000 gallons.

We have the tendency, especially in the West, of the municipally and State owned distribution systems. But what is even worse, we have today in some States the agitation to make our business a public utility and let me go on record in the prediction that unless we justify our existence by better and more economical service in the future, than in the past, many of us will live to see gasoline marketed through a public utility system, for don't forget that our principal commodity is in our present economic scheme of things a very great necessity.

There was a time when I thought, and it even flashes back to me occasionally yet, that we would have to follow in the footsteps of the public utilities and some other successful lines of merchandising and give a quantity price, at the filling stations, to some of our larger consumers, this price to be handled on a sliding scale, depending upon the volume of their monthly consumption. I have been severely criticized for this suggestion on the theory that it would completely tear down our present price structure, but this does not strike me very forcibly for if I personally owned something of which I thought as little as I do of our present price structure, I should not hesitate to tear it down.

Another possible solution in the minds of many as the only right one is a margin so small as to in a short time replace half the filling stations now in operation, with buildings of some public use.

One great handicap in marketing gasoline is the lack of individuality in our products. Suppose every refiner of gasoline could build into his product some decided individuality in quality, appearance and efficiency—would not then the marketing soon right itself? We have gone through another cycle of "doping" gasoline, which in sum total is nothing more than trying to give our products the desired individuality, and thereby reduce our selling cost per gallon.

This brings me in conclusion to the ultimate prospective solution which in practice I have partly proven, and which I now like the best.

Guard jealously the quality of your gasoline, give it a trademarked name. Advertise it as a quality product honestly made and honestly serviced and to add what you may actually lack in individuality of your product in the individuality of your stations and even attendants. By religiously following the above program with a moderate advertising campaign we were able to increase our gasoline sales of 1924 70 per cent over 1923, through exactly the same service stations and the same number of tank wagons.

This method I believe can be made so effective that it will really be a survival of the best marketers in your community. Certainly you can in time eliminate the marketer of the nameless gasoline and while you watch your own quality and push your sales hard, you will find a general improvement in all the gasoline sold in your community or see the early elimination of those who injure the entire industry by sell off-quality stuff.

Price cutting in our market seems very prevalent, especially to dealers, but by following the policy of creating a public demand for our kind of gasoline I am happy to say we do not find it necessary to compete with them on a price basis.

gasoline marketed today is some sort of blend and according to Hill and Deane in their paper "Quality of Gasoline Marketed in the United States," Bulletin 191, United States Bureau of Mines, 1920, page 5, "many of the blended products are preferable to straight run products, particularly if the added constituent is socalled 'casinghead' gasoline derived from natural gas." What was true in 1920 is true at this time and there is practically no gasoline being marketed today which does not contain its proper percentage of natural gasoline.

**Growth of Industry**

For many years natural gasoline was considered a waste product, and was treated as such. In the early part of the 1900s. the value of natural gasoline began to be known and a few plants were built to utilize this socalled valueless constituent of natural gas. About the time the automobile made its appearance the natural gasoline industry was just getting its start. It continued to grow until, in 1911 the Bureau of Mines first recognized it as a real factor in the gasoline situation and collected statistics for the first time, recording a production of 7,400,000 gallons of natural gasoline for that year. At that time, while the industry was 7 years old and there was invested in it about $2,000,000, the production for the whole year was less than one-third of the gasoline we now consume on a hot summer day. Now, 13 years later, there are about 1,200 plants with between $150,000,000 and $200,000,000 invested in the industry and the production this year will probably be between 900,000,000 and 1,000,000,000 gallons.

With the advent of years the increasing demand for gasoline and the necessity for refiners to improve their methods in order to increase production and at the same time reduce their costs has made it necessary for them to cut deeper into the crude and extract as nearly as possible all the commercial gasoline contained therein.

In 1915 various cracking processes came into existence and the development of these processes whereby the molecular construction of the residuum from the distillation of crude oil is broken up and a greater percentage of gasoline obtained, has aided greatly in increased production. But in no less degree has the increased production of natural gasoline assisted in the same direction because in cutting deeper into the crude the gravity of the gasoline produced is heavier and it is not sufficiently volatile to provide the most efficient carburetion in motor use. As the gasoline man expresses it. "the initial boiling point is too high and the chain of boiling points is too irregular to produce quick, continuous and complete combustion." Natural gasoline, with its lighter gravity and lower boiling point range is, therefore, introduced in percentages ranging from 8 to 15 and the refinery product lightened to the extent that its performance is satisfactory and the maximum efficiency is realized.

**Service to Public**

In 1916 the yield of gasoline from each barrel of crude was 8.34 gallons. By means of improved methods, such as cracking processes, etc., the yield per barrel of crude in 1924 amounted to 13.91 gallons or an increase of 60 per cent. Were it not for natural gasoline much of this increase would have been lost to the consuming public. Since 1911 the natural gasoline industry has produced approximately 4,270,000,000 gallons of gasoline valued at about $550,000,000. The statement to the effect that inferior grades of gasoline are being marketed in this country cannot be substantiated and you, as marketers and jobbers, have a very definite duty in controverting these claims to your customers and they, in turn, have the same duty to perform for the consuming public.

At this time many States are engaged in promulgating specifications for motor fuel. Some of the States are following the specifications which have been approved by the Government and known as U. S. Motor Fuel, formerly called New Navy. Surely any refiner meeting its specifications can rightfully claim that he is manufacturing high grade gasoline. In many instances, refiners are making a better product than the United States specifications and still selling their product as United States Motor Fuel, without any extra charge therefor. I do not refer to the socalled high test gasoline which is bringing a premium above the price of U. S. Motor Fuel. High test gasoline is limited in production and the refiner, to make same in quantities, must sacrifice production of his other grade, not only to his own detriment but to the disadvantage of the public as well. It is not obligatory on the purchaser's part to buy high test gasoline. If he is willing to pay a premium for that grade, well and good, but the general rank and file of motorists purchase gasoline according to Government specifications and obtain a very satisfactory product.

Better gasoline is not a slogan of the future. It is here today and has been here for some time and, as I have said, it is the duty of every man engaged in the petroleum industry to carry that story to the public.

## Oil Board Counsel Talks to Oil Leaders On Tour of Midwest

WASHINGTON, D. C., March 14.—Oil production during the next 12 months will far exceed the output of the past year, according to Charles W. Waterman, general counsel of the Federal Oil Conservation Board, who has just returned from a month's tour of the western petroleum fields. He found the great oil producing fields of the West and Southwest are operating at maximum speed and industrial leaders predicting a record-breaking output.

Mr. Waterman would not disclose the nature of his mission to the various oil fields which is expected to have a bearing upon the activities of the Oil Conservation Board. However, he reported that he found that the oil producing companies are thoroughly in accord with the President's Oil Board that much good will eventually come out of the general survey of petroleum conditions now being made by the Government.

Mr. Waterman has made no report yet to Secretary Work, Secretary Weeks, Secretary Wilbur or Secretary Hoover, members of the Federal Board, though it was intimated he is working on a report which will embody the data for which he was sent to the oil fields, and this information will disclose the views of many of the country's principal operators and producers.

"Those representative oil men with whom I talked during my trip." Mr. Waterman said, "are distinctly of the opinion that the Federal Board in its inquiry into oil conditions will in its report to the President confine itself only to constructive views and not concern itself with trivial or illusory theories. The oil men feel they have a friend at court in the Oil Board, that the officials thereof are men with practical minds and sound judgment and that their sole motive in searching the industry for facts is predicated upon the view that the survey will result in helpful suggestions that will benefit both the industry and the Government. At first there was a certain feeling of uneasiness, but now that the oil leaders of the country realize that the opportunity is theirs, insofar as that opportunity affords an opening for honest interchange of helpful views, they are cooperating with the board with a zeal and frankness that is bound to result in a better undersanding between the Government and the industry at large."

### DEATH OF H. C. EWERS

H. C. Ewers, prominent oil and gas operator of Chautauqua County, Kansas, died recently at his home in Independence, Kansas. With his brother, C, D. Ewers, of Winfield, Kansas, the deceased was associated with Denman Brothers in the early development of Chautauqua County.

### 15 OIL WELLS AND ONE GASSER IN ARTESIA, N. M.

ARTESIA, N. M., March 14.—The shooting of three wells in the proven area brings the total completions for this field to 15 producers, one gasser and no dry holes in a territory 5 miles north and 5 miles east of the discovery well. Only one well has been abandoned close to the field, this being No. 1 Howard in Section 22-18-27, which was carried down to 3,150 feet. The Howard test appears to be west of a line of faulting running north and south and parallel with the Pecos River.

Another well to be shot was No. 1 Penkenpough in Section 2-19-26, west of the river and near the town of Dayton. This well is located in the artesian water belt and may make a small pumper after the casing is reset, the shot having raised the 6-inch a distance of 5 feet.

To the north of the field No. 1 Roswell of the New States Oil Co. has been deepened with increased production. It is believed this will make one of the best producers in the field on being shot at a depth of approximately 2,300 feet. Four miles north of this well a good showing has been encountered in No. 1 Bobb on the Thompson permit at a depth of 540 feet.

Tools are being moved to the lease of W. C. Wells in the center of Section 19-20-30 for a test to be drilled to 2,500 feet. This well will be watched with interest as it is in the southeast trend so much favored by the major companies, chiefly the Ohio, Mid-West, Marland and Roxana. The finding of a large structure through the line of Flynn, Welch and fluenced these companies.

The first attempt to run production through the line of Fylnn, Welch and Yates caused the line to break east of the river. Repairs are being made and the line is expected to be in operation during the current week. The line of the Gilliland Oil Co. is almost completed to Dayton.

Following is a drilling report of the Field: Maljamar Oil & Gas Corp., Section 28-18-28, drilling 1,000 feet. Twin Lakes' No. 3 drilling, 750 feet. Ohio Oil Co.'s No. 1 Tracy, permit fishing 1,765 feet. Ohio Oil Co., Section 1-19-28 moving tools in. No. 1 Donahue, Section 11-16-27, fishing 600 feet. Flynn, Welch and Yates' No. 10 drilling 1,500 feet. No. 9 drilling 1,730 feet. McNutt and others' No. 1 Simpson drilling 1,360 feet. D. C. Cheesman's No. 1 changing rig. A. R. Goodale's No. 1 pumped 65 bbls. in 6 hours after standing a week. M. M. Miller's No. 1 Olson, drilling 1,450 feet. New State Oil Co. location in the northwest quarter Section 4-18-28. A location has been made by J. S. Law in the east half of the northeast quarter, Section 4-18-28. Rotary Oil Co.'s No. 2 drilling 350 feet. Gilliland Oil Co.'s No. 1 drilling 1,780 feet. Snowden-McSweeney's No. 1 in Section 21-18-28, rig up. Twin Lakes' location for No 4 in northwest corner of southwest, Section 28-18-28. Seven Rivers Oil Co.'s location in the northwest quarter, Section 29-18-28.

### BIG GAIN IN NORTH TEXAS

FORT WORTH, Tex., March 17.—Crude production registered a big gain in fields of North Central Texas during the week ending Saturday as compared to the previous week. The estimate for the past week totals 143,545 bbls. daily distributed as follows: Burkburnett, 15,435; Electra, 16,670; Archer County, 42,950; Stephens County, 16,010; Rauger, 6,375; miscellaneous, 46,105.

### SOUTH VERNON SALE

WICHITA FALLS, Tex., March 14.—The Wells-Guiberson holdings in the South Vernon oil pool have been sold to the Independent Oil & Refining Co. of Okmulgee, Okla., for $460,000. Included in the sale is the discovery well in this pool, Miss Thelma Wells, under whose superintendency the discovery well was drilled, is the owner of a half interest in the properties.

## Atlantic Refining Considering Offer For Colombia Grant

NEW YORK, March 14.—It is understood here the sailing of Colonel Robert W. Stewart, chairman of the Standard Oil Co. of Indiana, for Latin-American countries is in pursuance of a policy of his and other Standard Oil companies to acquire South American oil properties in view of the scarcity of new oil lands in the United States.

The most important transaction Standard Oil has on at present is the taking over of the Colombia Syndicate, holding concession on 1,000,000 acres of land in Colombia bordering on properties of International Petroleum Co., Ltd., of Canada, which have been proved among the richest oil deposits yet discovered.

Atlantic Refining has already made a bid for the Colombia Syndicate properties which has not yet been accepted. It is understood a competitive bid will be made by another Standard Oil Co. in which connection S. O. of Indiana is mentioned.

In view of the fact that it has been losing production in this country and is a 50 per cent owner of the Sinclair pipe line connecting its refineries with the Gulf Coast, it is believed Standard Oil Co. of Indiana is anxious to get new oil reserves, particularly in South America, from where the crude can be advantageously moved through the new pipe line which Standard Oil is laying into the Colombian fields and through its own facilities in this country.

A director of Colombia Syndicate stated a meeting of the board of directors has been called for March 31 in Pittsburgh to consider a proposed operating contract with the Atlantic Refining Co. Among the other provisions, the contract provides for a royalty to the Colombia Syndicate varying from 4 to 11 per cent, depending on two conditions, first, the amount of royalty due the Colombian land owners, and, second, the size of the well. Natural gas and gasoline will be paid for on the same royalty basis. In addition Colombia Syndicate would receive 7 per cent of net earnings from operations.

### PLAN TO ENLARGE SCOPE OF ASSOCIATION

(Continued from Page 21)

made. Twenty-four of these sizes were required for 20 per cent of the business. The committee recommended these be eliminated and the remaining 24 set up as a standard.

"Now comes the question, "to what extent is oil now being shipped in the simplified and standardized barrels?' How faithfully is this waste-elimination measure being supported by the industry! Perhaps I should not ask you these questions, considering the fact that the oil industry has not had a real good year since 1920.

"Nevertheless, since you gentlemen are investing several million dollars a year in barrels, it ought to be worth your while to use standard barrels. They may not hold any more than others, but they cost you less in the long run.

"Standard barrels permit easier taking of inventories. They permit better and more economical loading of cars. They are easier to handle because they permit development of handling equipment based on their standard sizes and dimensions. They eliminate delays in securing new barrels because manufacturers will stock a simplified line and make shipments at once from stocks on hand, and further the barrel makers can shorten production by having stocks of standard sheets, etc. on hand, and setting their machines for continuous runs. Standard barrels have a greater second-hand value because of their standard capacities, rather than being a collection of odd sizes. Standard barrels mean the prevention of many practice on the part of unscruplous dealers who may force the customer to take more than he wants or who may give him less by shipping him short measure."

## COAL INTERESTS ARE ACTIVELY OPPOSING OIL

(Continued from Page 22)

known oil deposits have been exhausted is a challenge, it was stated, and the creation of the commission on oil reserves to investigate naval reserves was taken as a sure forecast of the approaching shortage of American oil.

**News Propaganda**

The campaign is not confined to distribution of material by the dealer by word of mouth and through the news columns of the press. It also includes some advertising. A sample of such advertising is a half page ad which appeared in the Standard-Star of New Rochelle, N. Y., September 3, 1924, one of a series which was run by the Westchester County Retail Coal Dealers' Association. It was headed "Fire Chiefs Point Out Hazards Entailed by Use of Oil Burners for Heating." It quotes at length from an address made by Deputy Fire Chief Albert J. Caulfield, of the Boston Fire Department, before the convention of the New England Association of Fire Chiefs, crediting him with saying that the growth of the use of oil for heat and power has presented a serious fire hazard.

A sample of the propaganda which has been appearing from time to time in the news columns of the general press is short interviews of coal merchants. One item which seems to have been carried widely by the press of the country was an interview or statement by James F. Holland of the Holland Coal Co. of Chicago. He said oil heating plants lose their efficiency during storms. The recent cold wave, he stated, brought home to many residents in cities in the Middle West the folly of their reliance upon oil as fuel for domestic heating. In addition, he said, to the constant dangers involved, such as flooding the cellar, fires and inability to obtain the necessary grade of oil, two new sources of difficulty directly related to the inclement weather made themselves prominent. These, according to him, were the impossibility of the oil companies making deliveries of oil and the breaking down of wires which cut off the electric supply in driving pumps to spray the oil.

The Coal Trade Journal has devoted some attention to supplying its readers with material for use against oil. As an example, a recent article by George H. Cushing was carried, headed "The Dollars and Cents of Coal versus Oil." This article sought to prove that by comparing the advantages of burning coal in place of oil, the former is the more economical. A part of this article follows:

"Those who sell oil burning equipment advertise this in favor of oil and a demerit as far as coal is concerned. It is worth while to examine this for a minute before we take too much for granted.

"To keep a house healthy, there must be a complete change of air every hour. In that length of time it is assumed the house will cool off enough so that the fire will have to be started again. While the temperature in the room is cooling down, the water and pipes which are close to the windows, usually are cooling down much faster than the air. Therefore when the fire is started again, it is necessary, first, to warm up the water in the pipes before any heat can be put out into the rooms. Thus, by shutting off the fire, more heat is required to build up the temperature of the water in the pipes than if the fire had been kept going. This disposes of the boast that oil is more efficient than coal. On the contrary, it is less effiicient.

**House Heating Arguments**

"Also with this sort of a house heating system, the tendency is to the extremes of temperature. When the oil is being burned, the house is getting hotter than is comfortable. While the fire is being built up again the house is colder than is comfortable. It isn't possible, therefore, to maintain an even temperature which the average householder wants.

"On the contrary, the virtue of anthracite, for example, is that it is a slow burning coal. It delivers its heat steadily to the hot water jacket. If the fire is properly regulated, the radiator is distributing heat gradually through the room or just about fast enough to overcome the influence of the gradual change of air into the room. Anthracite, therefore, gives what might be called a stabilized fire. That means it gives a fire which is exactly fitted to the needs of the householder. Obviously, as between the two, oil on one side and coal on the other, there is no comparison, either as to cost or efficiency. That is the simple proposition as it works out on a dollar and cents basis."

Another example is an article carried in a recent issue of that publication and entitled "The Truth About Oil Burners." This purports to be an outline by an actual oil burner user of the advantages and disadvantages of fuel oil for domestic use, the paper stating: "The more first hand information the coal salesman can obtain about actual experiences of users of fuel oil and burners, the better equipped he will be to sell coal and recommend the modern stoker grate and induced draft equipment for domestic use. With this in mind we have induced one consumer to outline his experience with fuel oil. The following article contains valuable information for anyone who is feeling the effects of oil substitution. Read the article." Needless to say, the article has few complimentary things about oil.

It should be pointed out that many arguments being advanced by the coal people are legitimate sales arguments which are designed to meet the oil competition and which the oil people must be able to answer satisfactorily if they expect to make continued headway. The question of relative cost of oil and coal whether in connection with household burner or industrial burner has so many elements that skillful engineering data are not alone sufficient. Cost has about everything to do with whether the installation shall be for oil or coal in industrial plants, but in the case of household heating convenience and labor saving are often determining influences irrespective of cost of fuel. Therefore, the coal people have hit upon what they believe to be the most effective propaganda; that is, that oil burners are dangerous. Secondary to that, and having to do with relative cost, is the propaganda of a coming shortage of oil and prohibitive prices.

Various coal associations are aiding their members in presenting data to show the savings effected in coal burning at industrial plants as against oil burning. At the present time there are a good many shore or land plants going back to coal. This is particularly true in the New England District and to make a real movement out of this, the coal associations are very active. Recently the New England Wholesale Coal Association sent out figures compiled by a New England manufacturing concern relating to an industrial plant converting from oil to coal burning and showing a net saving of $36,139.55 per annum for coal over oil. Some of the large oil companies in the New England territory are alive to the situation and recognize that effective means must be adopted to combat such activities.

## NORTH TEXAS MARKETS ARE EXTREMELY DULL

FORT WORTH, Tex., March 14.—The rather generally expected advance in crude did not materialize and as a crude advance was depended upon the refined markets suffered some further declines. As refiners and marketers view the situation there seems to be nothing ahead that will strengthen the market, unless there should be an advance in crude or a few good export orders. Nearly everybody is still expecting the advance in crude. They would not be surprised at some large export orders coming into the market any day.

On the whole the market has been extremely dull. United States Motor Oil is being quoted at 11 to 11½ cents with reports that one or two small orders were moved at 10¾ cents during the week. Prices ranging from 14 cents to 14½ cents were being quoted on 64-66, 375 end point gasoline, with very little moving and a painful scarcity of inquiries.

Kerosene is weak, especially the 41-43 water white and the 42-44 water white. On the 41-43 grade prices were 4⅜ to 4⅝ cents with 42-44 bringing one-eighth cent more, 4½ to 4¾ cents. The prime grades of kerosene are very scarce. One marketer reported an inquiry extending over a week for a small shipment of prime kerosene which was not to be found anywhere in the north Texas market.

Both gas oil and fuel oil are weak. There is apparently a very determined effort by refiners to hold the price of fuel oil up to $1.30 in the north Texas market but the demand is small and they have been able to move only small shipments at that figure. However, they have been refusing to move it at less in most cases. Gas oil is very plentiful at 3½ cents for the 32-36 grade.

The market on natural gasoline is very sluggish in sympathy with other products. One large dealer in natural gasoline in north Texas reported he had only one inquiry during the week and that was for one car. Grade A was being quoted at 10 to 10½ cents while grade B was quoted at 10 cents.

## NORTH CENTRAL TEXAS

(Continued from Page 32)

Prewitt and others' No. 1 W. W. Crane, underreaming; Prewitt and others' No. 1 Luneecum, drilling at 1,400 feet; Urban and others' No. 1 Alvord, fishing at 2,200 feet.

Mitchell County: Eastland Oil Co.'s No. 1 Clark, drilling at 300 feet; No. 2 Keynard, at 2,985 feet; Sloan and others' No. 3 Miller, cleaning out 3,025 feet; California Co.'s No. 12 Morrison, cleaning out at 2,965 feet; No. 1 Elder, swabbing oil at 2,965 feet; No. 8 Abrams, drilling at 1,810 feet.

Sterling County: Co-Operative Lease & Development Co.'s No. 1 Douthis, cleaning out at 2,000 feet; Ford and others' No. 1 Foster, drilling at 1,800 feet.

Irion County: Gladys Belle Oil Co.'s No. 1 Suggs, drilling at 1,675 feet; Virginia Texas Petroleum Co.'s No. 1 Noelke, at 2,900 feet.

Upton County: Morris and others' No. 1 Holff, drilling at 440 feet.

Pecos County: Arkansas Fuel Oil Co.'s No. 1 Blackstone, drilling at 1,650 feet; Tom Adams Oil Co.'s No. 1 Odneal, 300 feet.

Crockett County: Alidor Oil Co.'s No. 1 University, drilling at 2,210 feet; Kavanaugh Angelo Oil Co.'s No. 1 University, at 1,680 feet; World Oil Co.'s No. 1 Powell, at 2,700 feet.

## OKLAHOMA FIELDS

(Continued from Page 115)

Stephens County, was dry and abandoned at 2,403 feet. The Magnolia Petroleum Corp.'s No. 6 Webb, NE cor. SE, Section 3-2s-5w, had broken sands at 1,648-75 feet, 1,683-1,708 feet, and solid sand at 1,708-28 feet; it was good for 15 bbls. naturally.

The Magnolia Petroleum Co.'s No. 3 Martin, CSL SE NE SW, Section 11-2s-5w, was drilling at 400 feet. The American Pipe Line Co.'s No. 1 Ploughman, SW cor. NW, Section 25-1-9w, was drilling at 800 feet. William Priddy and others' No. 1 Coffett, NE cor. SW, Section 26-1-9w, was shut in with 2,000,000 feet of gas at 1,940-46 feet, total depth 1,950 feet.

**Jefferson County**

The Carter Oil Co.'s No. 2, C NE SW SW, Section 34-6s-5w, Jefferson County, swabbed 160 bbls. in 9 hours from sand at 1,311-26 feet.

**Tillman County**

The H. S. & H. Oil Co.'s No. 1, NW cor. Section 11-1-17w, in Tillman County, was dry and abandoned at 1,500 feet. The same company's No. 1, SE cor. SW SE, Section 11-1-17w, was drilling at 230 feet.

**Comanche County**

The Magnolia Petroleum Co.'s No. 8

## GEOLOGISTS WILL DISCUSS WIDE RANGE OF SUBJECTS

(Continued from Page 24)

The Probable Origin of Some Gypseous Oil-Bearing Rocks in Wyoming, by W. W. Rubey.

**California**

Calcium Chloride Waters From Certain Oil Fields in Ventura County, California, by N. L. Taliaferro and F. S. Hudson.
The Age and Correlation of the Kreyenhagen Shale in California, by G. D. Hanna.
Structural Problems in Southern California, by W. S. W. Kew.
Notes on the Geology of the Baldwin Hills Region, by A. J. Tieje.
The Wheeler Ridge Oil Field, by George Cunningham.

**Central and Eastern United States**

New Tinsley's Bottom Pool on the Jackson-Clay County Line in Tennessee, by W. A. Nelson.
Carbon Ratios and Petroleum in Illinois, by Gail F. Moulton.
The Oil Fields of New York State, by C. A. Hartnagel.

**Foreign**

Geology and Oil Products of the Tzetiutsing District, Szechuan, China, by G. D. Louderback.
Chinese Methods of Well Drilling and of Handling Brines and Gas, by G. D. Louderback.
The Permian of India, by Dale D. Condit.
Geological History of the Panuco River Valley With a Discussion of Dynamics Involved and Their Relation to the Origin of Oil in Mexico, by Earl A. Trager.
An Eocene Fauna From the Moctezuma River, Mexico, by Joseph A. Cushman.
The Status of Americans in Petroleum Developments in Europe and Asia, by John W. Finch.
Geology and Oil Resources of Trinidad, B.W.I., by G. A. Waring and C. G. Carlson.
A Geological Reconnaisance in South and East Central Brazil With Notes on the Natural Resources and Industries of Brazil, by H. W. C. Prommel.
The Permian of the St. Lawrence Region, by Hugh MacKay.

**Special and Technical**

Oil Field Developments and Paleontology, by Dr. David White.
Some Paleontological Problems in Connection With Devonian, Mississippian and Pennsylvanian Rocks, by Dr. E. B. Branson.
An Experimental Study of the Origin of Salt Domes, by Paul D. Torrey and C. E. Fralich.
Results of Core Testing of Kansas Shallow Sands and Suggestions as to the Possibilities of Petroleum Recovery by Mining Methods, by John L. Rich.
Oil Mining, by Edward Bloesch.
Correlation of Oil Sands by Sedimentary Analysis, by M. E. Mortimore.
The Elements of the Oil Well Spacing Problem, by L. C. Uren.
A Critical Examination of the Equal-Pound Loss Law for Gas Reserves, by Roswell H. Johnson.
A Second Study in the Age-Size Method of Constructing Composite Decline Curves, by Roswell H. Johnson.
The Relation of Oil Shale to Petroleum, by F. M. Van Tuyl.
Sources of Material From Which Petroleum May Have Been Derived, by Junius Henderson.
Some Experimental Work Testing the Hydraulic Theory of Oil Migration and Accumulation by Means of the Downward Circulation of Water, by A. W. Weeks.
The Petrography and Origin of Gypsum and Anhydrite Deposits, by Marcus I. Goldman.
The Torsional Balance of Baron R. von Eotvos by Dr. D. Pekar, by A. Wroblewski.

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Ward, SE cor. Section 32-1-8w, Comanche County, was good for 15 bbls naturally from sand at 2,077-2,080 feet. Harry Hanbury, had a rig up for No. 1 Price, SE cor. SW SE NE, Section 30-2-9w.

**Grady County**

The American Refining Co.'s No. 1, CWL SW SW SE, Section 3-4-6, in Grady County, was dry and abandoned at 1,400 feet. Stagner and others had a rig on the ground for No. 1 Glover, C SE SW, Section 35-5-8w.

**Choctaw County**

The Turner Oil Co.'s No. 1 Kinney, CSL SW SW SE, Section 32-5s-17e, Choctaw County, was drilling at 230 feet.

**Greer County**

Bozo and others' No. 1 Harrington, C SW SW, Section 4-3-22w, in Greer County, was dry and abandoned at 3,222 feet.

## KANSAS FIELDS

(Continued from Page 43)

quarts. The J. A. Hull Co.'s No. 4 Newman, NW cor. NE SW, Section 24-32-4, topped gas sand at 2,966 feet, oil sand at 2,980 feet, and was drilled to 3,030 feet in sand. It made 200 bbls. in 15 hours after a 160-quart shot.

The Marland Oil Co. and Neely had a rig up for No. 3 Rockwell, C NW SW NE, Section 13-23-4, in the Winfield Pool. The J. A. Hull Co.'s No. 1 Tomkinson, C SE SE SE, Section 14-32-4, was drilling at 1,270 feet; No. 1 Glackin, C NE NE SE, Section 23-32-4, fishing at 690 feet; No. 1 Newton, NE cor. NW NE, Section 26-32-4, drilling at 1,000 feet; McKnabb and others' No. 1 County Farm, NE cor. SW, Section 34-32-4, moving in tools.

McIntyre & Foster's No. 1 Bartlow, SE cor. NE SE, Section 23-32-5, was drilling at 275 feet.

The Waite Phillips Co. had a rig on the ground for No. 1 Jacobus, C SW SW NW, Section 14-30-3. Boxer and others had a rig up for No. 1 Eliott, C NW NW SE, Section 4-31-5. Shawver and others were spudding in No. 3 Newton, C NW SE NE, Section 15-30-4. The Empire Gas & Fuel Co. was rigging up No. 3 Brown, C NE SW NE, Section 13-31-7.

In the Oxford Pool, the Waite Phillips Co. and others had a rig up for No. 1 Albright, C SW SW SE, Section 18-32-3; T. B. Slick and others were spudding No. 1-B Waite, NE cor. SW, Section 19-32-3, had a rig up for No. 2-A Carson, C SE SW NE, Section 19-32-3, and had rigs on the ground for No. 3-A Carson, C NW NW NE, Section 19-32-3, and No. 2-A Waite, C SE NE SW, same section. The Carter Oil Co. had timbers on the ground for No. 3 Waite, C NE NW SE, Section 19-32-3, and No. 4 Waite, C SW NW SE, same section.

The Waite Phillips Co.'s No. 3 Johnson, SE cor. Section 9-33-3, was drilling at 1,040 feet. The Marland Oil Co.'s No. 3 Wright, NE cor. NW NW, Section 10-33-3, had 40 bbls. estimated from 2,559 to 2,635 feet, and was drilling at 2,730 feet in slate.

In the Rainbow Bend Field, the Waite Phillips Co. and others' No. 1, C SE SE SE, Section 18-33-3, was drilling at 300 feet; No. 4 Baccus, C NW NW NW, Section 20-33-3, was drilling at 600 feet; No. 2 Johnson, C NE NE SE, Section 20-33-3, spudding in; No. 3 Johnson, C SE SE SE, Section 20-33-3, spudding in; No. 3 Nelson, C NW SE NE, Section 20-33-3, drilling at 280 feet; No. 1 Caldwell, C NW NW NW, Section 28-33-3, rig up; No. 2 Beebe, NE cor. Section 29-33-3, rigging up; No. 1 Johnson, C NE NE NE, Section 30-33-3, drilling at 700 feet.

**Marion County**

H. B. Garden and others had a rig up for No. 1 Warner, SW cor. Section 9-21-4, Marion County. The National Union Oil Co.'s No. 1, C SE SE SW, Section 16-35-1, was dry and abandoned at 2,445 feet.

**Chautauqua County**

Noble and others' No. 1 Goode, C S half NE, Section 31-34-10, Chautauqua County, was completed for 1,000,000 feet of gas at 1,085-95 feet. Page Brothers' No. 1 Moffitt, CSL SE, Section 24-34-9, was abandoned at 2,359 feet.

**Ellis County**

Davis and others' No. 1 Smith, NW cor. Section 14-12-16w, in Ellis County, was abandoned at 3,450 feet; several small shows had been found between 2,8880 feet and 3,420 feet.

**Reno County**

Haynes and others' No. 1 Halloran, NW cor. SE NW, Section 28-25-6w, Reno County, had a show of oil at 3,624 feet, and was abandoned with a hole full of water at 3,635 feet.

**Harper County**

Merritt and others have made a location for No. 1, NE cor. Section 24-32-7w, Harper County. Moore and others have made a location, NW cor. Section 19-32-5w.

**Butler County**

The Vickers Petroleum Co. has made a location, No. 1 Thomas, SE cor. NE NW, Section 12-24-3, Butler County. Garden and others abandoned No. 1 Crawley, NE cor. SW NE, Section 22-28-5, at 2,885 feet.

Mason & Ralston and others were spudding in No. 1, NW cor. SW, Section 6-24-6. The Blue Stem Oil Co. was rigging up No. 3 McLean, CNL SE SW, Section 5-27-6.

**Coffey County**

The Tidal Oil Co. abandoned No. 1 Bahr, SW NW SE, Section 13-23-13, Coffey County.

**Elk County**

The Empire Gas & Fuel Co.'s No. 2 Porter, NE cor. NW NW, Section 13-29-8, Elk County, was good for 120 bbls. after a 130-quart shot at 2,004-38 feet.

**Sedgwick County**

Merriman and others' No. 1 Landon, SE cor. Section 14-28-2e, Sedgwick County, was abandoned with a hole full of water from the Wilcox at 3,282-3,303 feet.

J. H. Liggett and others had a rig up for No. 1, C NE NE NW, Section 11-26-1.

**Sumner County**

The Prairie Oil & Gas Co.'s No. 1, C SE SE NW, Section 34-34-2, was drilling at 520 feet.

**Rooks County**

J. C. Findeiss and others' No. 1 Minx, SW cor. Section 25-10-19w, Rooks County, was drilling at 220 feet.

## N. LOUISIANA-ARKANSAS

(Continued from Page 108)

1,025 feet in No. 1 Bodcau, Section 4-20-21, 16 miles south of Magnolia and a few miles northwest of the Haynesville Field.

**Lafayette County**

The Humble Oil & Refining Co. set 10-inch casing at 40 feet and is drilling at 150 feet in No. 1 Bodcau-Kitchens, Section 24-15-23, 9 miles northeast of Lewisville.

The Kansas Petroleum Co. tested dry with no show of oil or gas at 1,878 feet in No. 2 Red River Land Co., Section 3-20-24, drilled deeper and is arranging to test at 1,887 feet. The test is just across the Louisiana line and 21 miles south of Lewisville.

**Miller County**

Dr. F. F. Nigh and others are drilling in hard chalk a 2,625 feet in No. 1 Thomas, Section 12-20-28, 3 miles northeast of Rodessa and just across the State line.

J. K. Wadley is drilling at 2,140 feet in No. 1 Thompson, Section 33-14-28, 5 miles north of Texarkana.

**Nevada County**

Ames and others have set 6-inch casing at 2,140 feet in No. 4 Womack, Section 10-14-21, and Zing and others are drilling in shale at 750 feet in No. 2 Womack in the same section, both in the Nevada district.


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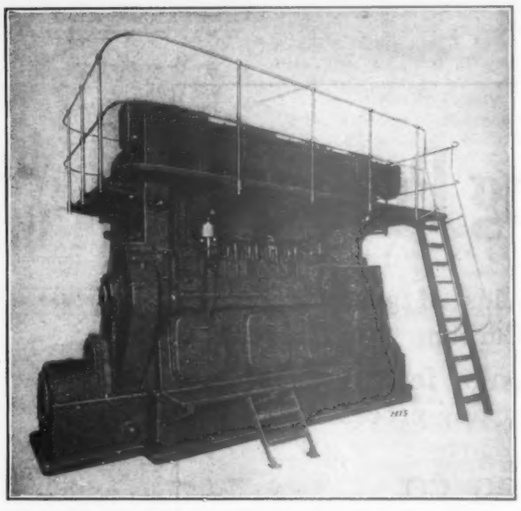

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## Fuel Oil for Navy Officers Topic at Wyoming's Oil Club

CASPER, Wyo., March 13.—The Wyoming Petroleum Club at its regular meeting decided to hold its annual ball shortly after Lent closes, probably the week of Easter Sunday.

At the meeting possible new oil production from South America was brought up for discussion by Geologist H. G. Sinclair of the Midwest Refining Co., assisted by the chairman, E. L. Estabrook.

The formal paper of the evening was that of Commander H. A. Stuart on "Fuel Oil for the Navy." Commander Stuart was ordered to Wyoming when the Teapot Dome was placed in the hands of the receivers to look after the Navy's interests.

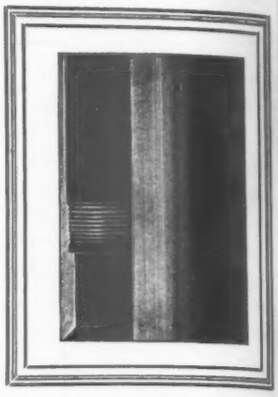
The war, he said, did much to promote the change from coal to oil in the Navy until at present we have only six battleships still using the black diamonds for fuel instead of black gold. The change is a welcome one to the personnel, as with coal as fuel, every man from the admiral down to the mess boy shifted into dungarees every three weeks and worked hard at the messy job of coaling ship; now a barge or tanker draws alongside, a hose end comes aboard and the pumps start and fill the bunker tanks without any trouble. In the present day battleships, the galley, bakery and other equipment using fuel are fixed for burning oil so that no coal whatever is used any more on the oil burning ships. Every oil product finds its uses on board the ships of the Navy, from the gasoline used in the motor launches, to the vaseline used in the sick bay, and the heavy oils in the fuel tanks.

The amount of oil used yearly by our Navy is about 7,000,000 bbls. in times of peace, but the Navy Department has always looked ahead in consideration of its needs in time of war and at present it is computed if we should have a war on the Atlantic Ocean, our consumption of oil for the Navy would jump to 50,000,000 bbls. per year and if war should be fought on the Pacific, the Navy would require some 70,000,000 bbls. of oil for its needs in one year. The policy of the Navy is to have storage for some 48,000,000 bbls., but at present only about 4,162,000 bbls. of storage are available. The Navy Department maintains a special school at the Philiadelphia Navy Yard for the instruction of recruits in the burning of oil as fuel and by this school, hopes to establish a standard for the work of the firemen. Recently this school was opened to students of firing from the merchant service also.

The commander detailed an incident of the World War that called for specially trained men to assist the Navy from the petroleum industry. The slow moving tankers that supplied the Allied fleets in the North Sea became an easy mark for the German submarines and some means of effectually combating this attack became one of the great problems. The Americans called Forrest M. Towl of the Eureka Pipe Line Co. to London and with a force of American oil workers, he laid a line line across Scotland which delivered oil to the ships in harbor on the east coast and obviated the necessity of sending tankers into the dangerous waters of the North Sea.

Commander Stuart went into the technical details of the requirements of the Navy for its different oil products and outlined the three main grades of fuel oils, grades A, B and C, and the flash points, viscosity and sulphur content, giving the reasons. One interesting fact brought out was that a different fuel oil should be used in cruises in tropical climes from the fuel oil used when the ship is to be stationed in colder waters.

Commander Stuart pointed out in the arguments that followed his paper that the cruising radius of an airplane is too limited to be more than a means of defense at present and that no aircraft yet devised could cross the oceans and carry out an offensive against our shores without a base of supply.



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# Is "Cheapness" Worth While?

In price there is little difference between the best ball and seat you can buy, and the worst.

And yet the proper choice of this little item is one of the most important matters connected with pumping wells.

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On the ball and seat depends, to a large extent, the number of times you have to pull your wells. (A good ball and seat outlasts from 3 to 15 poor ones.)

Production also is dependent, to a large degree, on balls and seats. A product that is corroded quickly, pits easily and fails to seat properly, gives but a small percentage of its possible yield.

All over the world NO-CO-ROS are noted for their uncompromising quality. Balls and seats composed of special-formula non-corrosive steel, triple tested and absolutely guaranteed, cost a trifle more, perhaps—but they give three to 15 times more service. That is the only kind Norris Brothers will ever produce.

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## FURTHER ACTIVITIES IN NEW MEXICO AREA

The Phelps Oil Co. has shipped two rigs from Bowling Green, Ky., to Watrous, N. M., in Mora County, to be used in testing a location 6 miles southeast. Another test will likely be drilled on the Jones Dome in San Miguel County. In Union County geologizing is in progress by three companies, where the Clapham and Seneca structures are being checked, and it is said the old Pasamonte well will probably be completed before summer.

In Valencia County, New Mexico, E. M. Otero has leased his Bosque ranch to Denver interests, who are blocking up 10,000 acres for drilling a test. which must be started by August 1. This location is about 16 miles south of Albuquerque, and is a Pennsylvania sand test, estimated 3,600 feet.

In the same county, F. D. Huning, the Bond-Connell Co. and E. M. Otero leased 20,000 acres on the San Clement grant, west of Los Lunas, to California operators, who have agreed to start operations before July 1.

In McKinley County, W. A. Pierce of Gallup was the successful bidder on seven quarter sections of Indian allotment land offsetting the section of which the Ambrosia Lake well was drilled by the Midwest Co. He is required to start operations within 90 days after sale is approved by the Department of the Interior.

The Standard of California test, on Section 15-23-24, Floersheim lease, was abandoned on account of striking granite at 2,250 feet, which, it is said, was penetrated 300 feet in an effort to make a thorough test. A pocket of noninflamable gas was struck at 1,509 feet, said to have a helium content, but the pocket was soon exhausted.

## DRILLING ENGINEERS TO MEET AT BUCHAREST

The International Association of Drilling Technologists (Internationale Bohrtechnikerverband), one of the oldest institutions of its kind, will hold its 1925 meeting in Bucharest, Rumania, in May next. Rumania had been decided on for the 1914 meeting, but the war intervened, and not until now has it been practicable to revert to the proposal. Rumania is represented in the membership of the association by about 100 engineers, relatively a large number.

A committee has been formed in Rumania for the purpose of organizing the meetings next May; and the following are members: Ing. C. R. Barbacioru, Ing. Al Budurovici, Ing. I. Bujoiu, Ing. Dr. I. Dinu, Ing. G. C. Georgescu, Ing. Alex Georgiade, Ing. C. Hoisescu, Ing. R. Icma, Ing. G. Ionescu-Boroaia, Dr. Ing. V. Iscu, Ing. I. Lupascu, Ing. C. Matasaru, Ing. T. Metianu, Dr. Ing. C. I. Motas, Geologe Dr. R. Noth, Ing. G. Pantazi, Ing. D. Pavalescu, Prof. Dr. I. Popescu-Voitesti, Ing. D. Sencovici, Ing. T. Serghiescu, Ing. V. Tacit, Prof. Dr. Ing. V. Danaila

Information can be obtained from, and inquiries should be addressed to, M. Traian I, Metianu, mining engineer, Boulevard Packe 17, Bucharest.

## INDUSTRIAL GAS FOR GROESBECK

GROESBECK, Tex., March 14.—The Groesbeck Gas Co., a subsidiary of the Bains Creek Petroleum Co., is placing pipe for immediate construction of a pipe line and local system of distribution of industrial and domestic gas to Groesbeck consumers.

The town is already served with domestic gas by the Stroud Gas Co., which for several years has marketed gas from its own large holdings 3 miles out.

The industrial gas will be piped from the two big gas wells of the Bains Creek Petroleum Co. 4 miles west of town. Meanwhile the Stroud gas Co., fortified with large acreage holdings of proven gas and present production, is drilling another deep well with a view of fully meeting any possible gas requirements.


Approved for Field and Refinery Service

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Solid Woven Cotton Belting

**"STAND BY FOR WILL ROGERS"**

Will Rogers says, "You can't sell those Western hard-boiled eggs much and keep on selling them, unless it's got class."

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And when new equipment for new fields includes bigger and bigger percentages of STANLEY,

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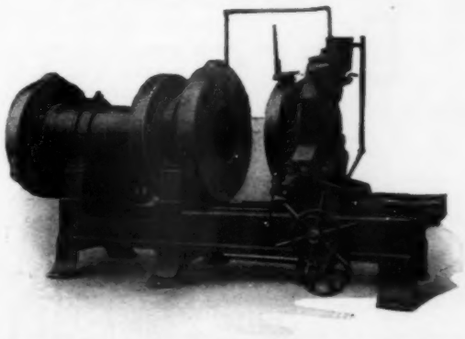

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**All the important things about a Pipe Machine are here incorporated.**

**This equipment produces the highest quality of work and does so in a minimum of time and at a low operating cost.**

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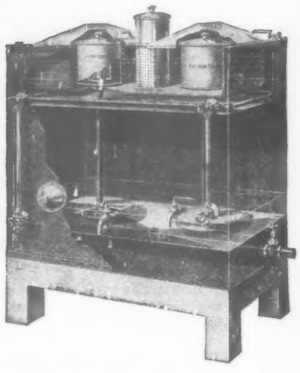

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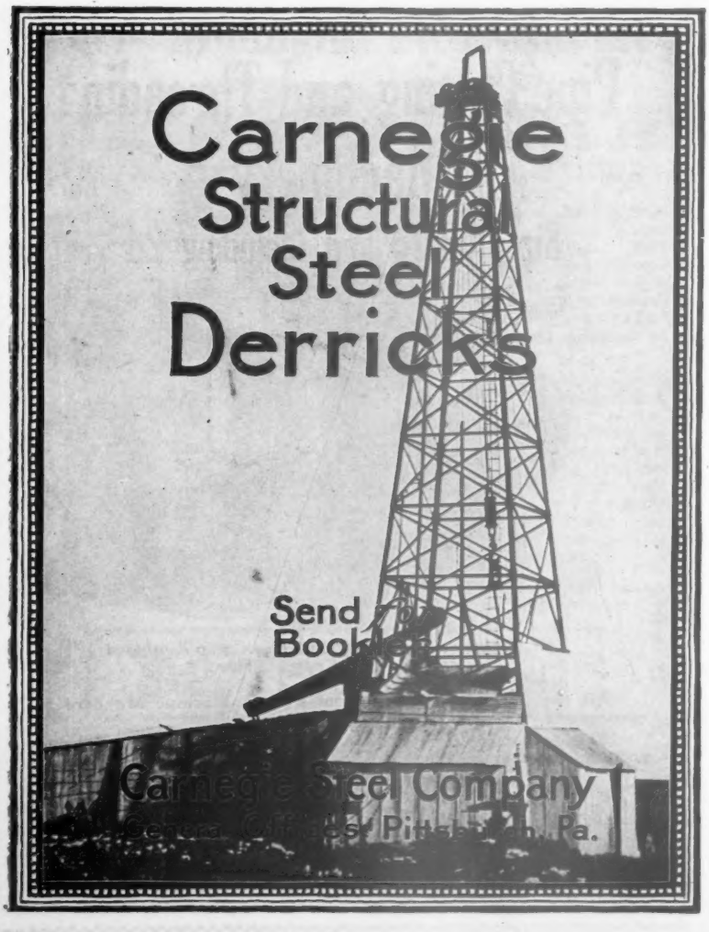



## Mexican Shipments In January Showed Increase Over 1924

By George Blardone

TAMPICO, Mexico, March 13.—Shipments of petroleum from Mexican ports of primary clearance during the month of January totaled 11,108,970 bbls., an increase over the movement in January 1924 of 1,274,169 bbls. Of this volume, the heavier oils of the Northern Fields is credited with 5,987,425 bbls., although an even larger percentage of the heavier oils is actually represented, but it is impossible to segregate the volume in mixed cargoes reported.

Of the ports dispatching, Tampico cleared 10,480,970 bbls.; Port Lobos, 198,470, and Tuxpam, 429,453 bbls.

In detail the movement follows:

**FROM TAMPICO**

**By Huasteca Petroleum Co.**

(Mexican Petroleum)

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 1 | Ss. | E. L. Doheny III, Rio Janiero | *81,165 |
| 1 | Ss. | E. L. Doheny III, Rio Janiero | † 3,980 |
| 1 | Ss. | E. L. Doheny Jr., Mont. y Buenos Aires | *77,760 |
| 1 | Ss. | C. Anderson, New Orleans | †77,350 |
| 1 | Ss. | F. K. Lane, New York | *55,507 |
| 1 | Ss. | Cerro Azul, New York | *69,226 |
| 2 | Ss. | G. G. Henry, Boston | *54,706 |
| 2 | Ss. | Fueloil, Miami | *14,152 |
| 3 | Ss. | F. R. Kellogg, Galveston | *60,111 |
| 4 | Ss. | I. C. White, Boston | *59,038 |
| 5 | Ss. | Fred Ewing, New Orleans | 58,827 |
| 5 | Ss. | W. H. Doheny, Providence | *58,385 |
| 5 | Ss. | Mexoil, Miami | * 9,405 |
| 5 | Ss. | Mexoil, Miami | † 5,916 |
| 6 | Ss. | P. H. Harwood, Galveston | *61,609 |
| 6 | Ss. | Montana, Philadelphia | 57,633 |
| 8 | Ss. | O. D. Bennett, New Orleans | †52,926 |
| 9 | Ss. | E. L. Doheny, New York | *55,996 |
| 9 | Ss. | Inverurie, Southampton | *58,564 |
| 9 | Ss. | Meline, Boston | *59,264 |
| 10 | Ss. | Chas. Harwood, New York | †34,994 |
| 10 | Ss. | C. A. Canfield, New Orleans | 55,226 |
| 10 | Ss. | S. M. Spalding, New York | *56,348 |
| 10 | Ss. | Norman Bridge, Houston | *39,872 |
| 11 | Ss. | Elisha Walker, Providence | *61,226 |
| 12 | Ss. | Wm. Green, Boston | *60,063 |
| 12 | Ss. | F. R. Kellogg, New Orleans | 62,524 |
| 13 | Ss. | J. O. Boyd, New Orleans | †19,057 |
| 14 | Ss. | H. G. Wylie, Panama | *40,322 |
| 14 | Ss. | P. H. Harwood, Galveston | *62,414 |
| 15 | Ss. | G. W. Barnes, New Orleans | †75,775 |
| 15 | Ss. | Fueloil, Miami | *14,300 |
| 16 | Ss. | Fred Ewing, Philadelphia | 56,346 |
| 16 | Ss. | J. M. Danziger, Boston | *60,755 |
| 17 | Ss. | Mendocino, New York | *59,765 |
| 17 | Ss | Mirlo, New York | *59,110 |
| 18 | Ss. | Harold Walker, New Orleans | 61,837 |
| 18 | Ss. | Norman Bridge, Houston | *40,669 |
| 19 | Ss. | Mantilla, Portland | *50,174 |
| 20 | Ss. | Inverleith, Southampton | *57,645 |
| 20 | Ss. | P. H. Harwood, Galveston | *61,793 |
| 21 | Ss. | Cerro Azul, Mont. y Beunos Aires | *74,317 |
| 22 | Ss. | Cerro Ebano, Providence | *71,376 |
| 23 | Ss. | C. A. Canfield, Providence | *54,528 |
| 23 | Ss. | F. R. Kellogg, New Orleans | *68,242 |
| 23 | Ss. | Mexoil, Miami | *14,556 |
| 24 | Ss. | F. K. Lane, New Orleans | 60,318 |
| 24 | Ss. | G. G. Henry, Boston | *56 788 |
| 24 | Ss. | G. W. Barnes, New Orleans | †75,616 |
| 24 | Ss. | Panoil, Miami | *14,482 |
| 25 | Ss. | I. C. White, Boston | *61,438 |
| 25 | Ss. | W. H. Doheny, New York | *56,773 |
| 26 | Ss. | P. H. Harwood, Galveston | *63,957 |
| 26 | Ss. | J. O. Boyd, New Orleans | †18,324 |
| 27 | Ss. | Norman Bridge, Houston | *41,614 |
| 28 | Ss. | W. L. Steed, New Orleans | †75,789 |
| 29 | Ss. | Montana, Providence | *60,090 |
| 29 | Ss. | Harold Walker, New York | *61,293 |
| 29 | Ss. | Inverarder, Southampton | *49,856 |
| 29 | Ss. | Fueloil, Miami | *14,208 |
| 30 | Ss. | E. L. Doheny, New York | *57,033 |
| 31 | Ss. | San Leonardo, New Orleans | 52,977 |
| 31 | Ss. | S. M. Spalding, Boston | *60,135 |
| | | Bunker deliveries | 205,308 |
| | | Total | 3,491,353 |

**By Transcontinental Petroleum Co.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 1 | Ss. | Halsey, New York | 57,406 |
| 1 | Ss. | T. H. Wheeler, Port Tampa | 51,547 |
| 1 | Ss. | Princeton, Guantanamo | 41,204 |
| 4 | Ss. | Ardmore, Baton Rouge | 67,102 |
| 4 | Ss. | Vancolite, New York | 72,379 |
| 5 | Brg. | Socony 89, Providence | 24,676 |
| 5 | Ss. | Vistula, New York | 66,338 |
| 5 | Ss. | Olna, Baton Rouge | 56,961 |
| 6 | Ss. | Comet, Providence | 18,818 |
| 7 | Ss. | L. J. Drake, Jacksonville | 54,641 |
| 8 | Ss. | Muskogee, Porto Rico | 51,463 |
| 8 | Ss. | Muskogee, Porto Rico | * 7,838 |
| 9 | Ss. | Montrolite, New York | 54 887 |
| 9 | Ss. | Gedania, New York | 75,880 |
| 10 | Ss. | T. H. Wheeler, Baltimore | 55,162 |
| 11 | Ss. | Imlay, New York | 67,378 |
| 12 | Ss. | Vaarli, Philadelphia | 20,046 |
| 12 | Ss. | Bostwick, Baytown | 67,067 |
| 15 | Ss. | Carsimir, Baltimore | 11,992 |
| 15 | Ss. | S. B. Hunt, Paulsboro | 60,194 |
| 15 | Ss. | Albertolite, Baltimore | 64,791 |
| 15 | Ss. | Victolite, Panama | *72,958 |
| 17 | Ss. | Princeton, Key West | 2,685 |
| 18 | Ss. | Olna, Baton Rouge | 59,040 |
| 18 | Ss. | Cape Ann, New York | 55,193 |
| 19 | Ss. | Cape Cod, New York | 55,813 |
| 19 | Ss. | Pioneer, Port Tampa | 47,364 |
| 20 | Ss. | Matinicock, Baytown | 68,221 |
| 20 | Brg. | Socony 90, Providence | 25,281 |
| 20 | Ss. | Brilliant, Providence | 19,663 |
| 20 | Ss. | L. J. Drake, Baltimore | 24 224 |
| 20 | Ss. | L. J. Drake, Baltimore | †38,439 |
| 21 | Ss. | Catahoula, Baltimore | 43,967 |
| 22 | Ss. | Glenpool, Key West | 39,852 |
| 23 | Ss. | Malmanger, New Orleans | 61,489 |
| 24 | Ss. | Dillwyn, New York | 60,456 |
| 24 | Ss. | Ballhill, Boston | 5,143 |
| 25 | Ss. | Vancolite, New York | 78,114 |
| 25 | Ss. | Eurana, New York | 60,436 |


## "CUT OIL"

*is a problem in CHEMISTRY*

An "emulsion" represents a condition of a liquid which can be fully, scientifically and economically corrected by use of the chemical process. Use TRET-O-LITE process when you have cut oil and tank bottoms that require treating.

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**Parkersburg, W. Va., Butler, Pa.**



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**Wichita Falls, Texas**



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MINIMUM WEIGHT
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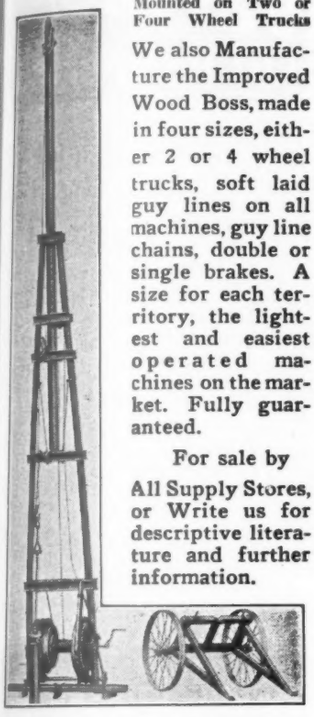

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We also Manufacture the Improved Wood Boss, made in four sizes, either 2 or 4 wheel trucks, soft laid guy lines on all machines, guy line chains, double or single brakes. A size for each territory, the lightest and easiest operated machines on the market. Fully guaranteed.

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The Boss Mfg. & Supply Co.
Van Buren, Indiana. U. S. A.



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RANGER—J. F. Tennyson, 126.
GORMAN—P. W. Burdette, 159.
COLORADO, TEXAS—James Dailey, Phone 125.

**KANSAS**

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| | | | |
|---|---|---|---|
| 26 | Ss. | Vistula Baltimore | 75,301 |
| 28 | Ss. | Durango, New York | 58,919 |
| 28 | Ss. | James McGee, Texas City | 82,585 |
| 28 | Ss. | Cedarhurst, New York | 41,760 |
| 29 | Ss. | Meramin, Baton Rouge | 61,334 |
| 29 | Ss. | Aztec, Baton Rouge | 33,352 |
| 29 | Ss. | Golaa, Baytown | 54,816 |
| 29 | Ss. | Princetown, Havana-Mariel, Cuba | 47,270 |
| 30 | Ss. | Matinicock, Charleston | 70,889 |
| 30 | Ss. | Aztec, New York | 14,394 |
| 31 | Ss. | H. M. Flagler, Baltimore | 69,185 |
| | | Bunker deliveries | 118,393 |
| | | Total | 2,585,205 |

**By Cia. Mexicana Holandesa La Corona, S.A.**
(Royal Dutch-Shell)

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 1 | Ss. | Limicana, Holland | 45,301 |
| 3 | Ss. | Malmanger, New Orleans | 61,107 |
| 6 | Ss. | F.-Sulphur 1, Freport | 5,706 |
| 6 | Ss. | F-Sulphur 6, Freport | 25,971 |
| 10 | Ss. | Caloria, Puerto Padre, Cuba | 6,711 |
| 12 | Ss. | Maricopa Bayonne | 49,169 |
| 12 | Ss. | Maricopa, New York | * 8,771 |
| 13 | Ss. | Vaarli, Philadelphia | 32,747 |
| 14 | Ss. | San Joapuin, New York | *58,704 |
| 14 | Ss. | Malmanger, New Orleans | 60,159 |
| 15 | Ss. | Crenatula, Marseilles | *49,242 |
| 15 | Ss. | British Light, London | 49,015 |
| 16 | Ss. | Candem, Columbia | *31,033 |
| 16 | Ss. | Candem, Panama | *25,191 |
| 18 | Ss. | Nina, Hamburg | *28,134 |
| 18 | Ss. | Corbis, London | *48,032 |
| 18 | Ss. | Dora, New York | 47,591 |
| 19 | Ss. | Bethelridge, Boston | 59,348 |
| 23 | Ss. | Conus, New York | *51,273 |
| 24 | Ss. | Ballhill, Boston | 48,209 |
| 24 | Ss. | Malmanger, New Orleans | 61,489 |
| 24 | Ss. | F-Sulphur 1, Banes, Cuba | 17,896 |
| 25 | Ss. | San Ricardo, Holland | 49,890 |
| 31 | Ss. | San Lamberto, Lisbon | *52,153 |
| | | Coastwise deliveries | 157,029 |
| | | Bunker deliveries | 84,089 |
| | | Total | 1,213,960 |

**By Mexican Eagle Oil Co., Ltd.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 5 | Ss. | San Silvestre, London | *35,244 |
| 5 | Ss. | San Manuel, Philadelphia | *48,697 |
| 7 | Ss. | San Macedonio, London | †58,590 |
| 12 | Ss. | San Fraterno, Lizard f/o | *85,975 |
| 13 | Ss. | San Zotico, New York | *50,885 |
| 13 | Ss. | San Salvador, Buenos Aires y Valparaiso | †60,287 |
| 16 | Ss. | San Zeferino, Glasgow | *51,630 |
| 16 | Ss. | San Gerardo, Lizard f/o | *70,025 |
| 19 | Ss. | San Lamberto, Havana | *52,223 |
| 27 | Ss. | Ovid, Rosario y Santa Fe, Argentine | †15,796 |
| 30 | Ss. | San Rosendo, London | *58,285 |
| 30 | Ss. | San Melito, Buenos Aires y Santos | *85,597 |
| 31 | Ss. | San Leopoldo, Rio Janeiro | **24,430 |
| 31 | Ss. | San Leopoldo, Rio Janeiro | †28,095 |
| 31 | Ss. | San Patricio, Devonport | *89,195 |
| | | Coastwise deliveries | † 9,685 |
| | | Coastwise deliveries | *49,056 |
| | | Bunker deliveries | 71,326 |
| | | Total | 945,020 |

**By Mexican Sinclair Petroleum Corp.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 2 | Ss. | Gene Crawley, New Orl'ns | 32,297 |
| 4 | Ss. | A. E. Watts, Cuba | 64,418 |
| 8 | Ss. | Harry Farnum, New Orleans | 32,182 |
| 10 | Ss. | W. L. Connelly, P. Barrios, C. A. | 33,240 |
| 13 | Ss. | E. W. Sinclair, Cuba | 44,735 |
| 13 | Ss. | Madrono, Cuba | 51,672 |
| 14 | Ss. | J. F. Farrell, New Orl'ns | 61,397 |
| 19 | Ss. | A. E. Watts, Cuba | 63,500 |
| 19 | Ss. | Harry Farnum, New Orleans | 30,649 |
| 24 | Ss. | J. F. Farrell, Cuba | 62,220 |
| 24 | Ss. | Madrone, New Orleans | 53,887 |
| 25 | Ss. | W. L. Connelly, Cuba | 32,466 |
| 25 | Ss. | Gene Crawley, Cuba | 32,075 |
| 29 | Ss. | E. W. Sinclair, New Orleans | 46,296 |
| 29 | Ss. | Harry Farnum, Cuba | 30,169 |
| | | Total | 670,203 |

**By Mexican Gulf Oil Co.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 1 | Ss. | Gulfoil, Port Arthur | 50,022 |
| 1 | Brg. | Shenango, Port Arthur | 23,747 |
| 2 | Ss. | J. M. Guffey, Port Arthur | 20,110 |
| 6 | Ss. | Ligonier, Port Arthur | 33,269 |
| 7 | Ss. | Winifred, Savannah | 19,148 |
| 9 | Ss. | Durango, Baltimore | 57,610 |
| 12 | Ss. | Gulfpoint, Galveston | 60,081 |
| 14 | Ss. | Gulfstate, Port Arthur | 62,149 |
| 19 | Ss. | Currier, Port Arthur | 45,431 |
| 21 | Ss. | Ligonier, Port Tampa | 30,222 |
| 25 | Ss. | Gulfstar, Port Arthur | 72,033 |
| 25 | Brg. | Conemaugh, Port Arthur | 17,640 |
| 28 | Ss. | J. M. Guffey, Galveston | 19,211 |
| 29 | Ss. | Gulfoil, Port Arthur | 49,926 |
| 29 | Brg. | Shenango, Port Arthur | 23,016 |
| | | Bunker deliveries | 16,790 |
| | | Total | 600,405 |

**By East Coast Oil Co.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 1 | Ss. | Topila, New Orleans | 51,270 |
| 5 | Ss. | Torres, Galveston | 51,017 |
| 6 | Ss. | F-Sulphur 1, Freeport | 14,571 |
| 12 | Ss. | F-Sulphur 1, Freport | 18,406 |
| 14 | Ss. | Torres, Galveston | 52,107 |
| 16 | Ss. | F-Sulphur 6, Freeport | 27,466 |
| 18 | Ss. | F-Sulphur 1, Freeport | 19,390 |
| 21 | Ss. | Topila, New Orleans | 49,834 |
| 23 | Ss. | F-Sulphur 6, Freeport | 27,353 |
| 24 | Ss. | Torres, New Orleans | 51,939 |
| 28 | Ss. | F-Sulphur 6, Freeport | 25,647 |
| | | Bunker deliveries | 6,768 |
| | | Total | 395,768 |

**By The Texas Co.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 1 | Ss. | Louisiana, Matanzas y Sagua | 25,557 |
| 8 | Ss. | Pennsylvania, Marcus Hook | *52,335 |
| 26 | Ss. | Texas, Port Neches | 60,033 |
| 29 | Ss. | Pennsylvania, Port Arthur | 56,689 |
| | | Bunker deliveries | 8,009 |
| | | Total | 202,623 |

**By New England Fuel Oil Co.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 5 | Ss. | Chuky, Tocopilla | 56,616 |
| 16 | Ss. | Princeton, Key West | 46,519 |
| | | Bunker deliveries | 6,254 |
| | | Total | 109,389 |

**By Empire Gas & Fuel Co.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 15 | Ss. | Mexicano, Fall River | 16,696 |
| 18 | Ss. | Cedarhurst, New Orleans | 43,689 |


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*For Measuring Production and Distribution of*

## *Oil–Gasoline–Gas*

*and Other Fluids*

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**PITTSBURGH METER COMPANY**

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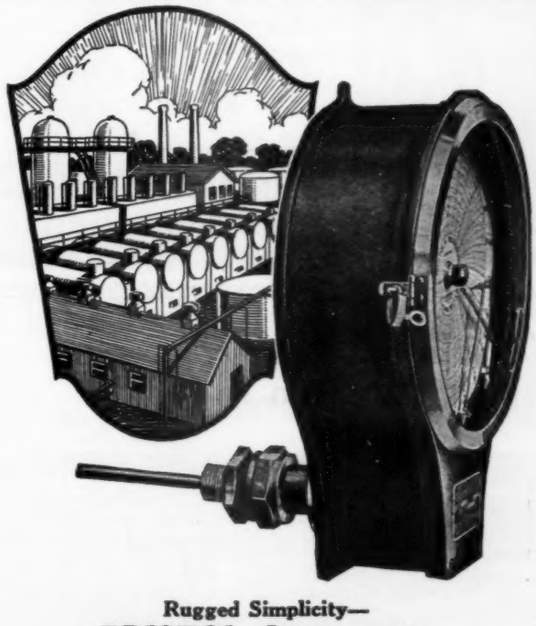
**Seattle—4038 Arcade Bldg.**
**Los Angeles—Union Bank Bldg.**





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**reveal this unfailing character of American Greatness**

In its mechanical products, as well as in its men, America places its approval most positively on those that do the work dependably, no matter what adverse conditions may prevail.

Bristol's instruments are world-famed for uniting precision with a ruggedness and simplicity that puts break-downs and maintenance expense right down to the practically irreducible minimum.

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Branch Offices:
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**BURT FILTER**

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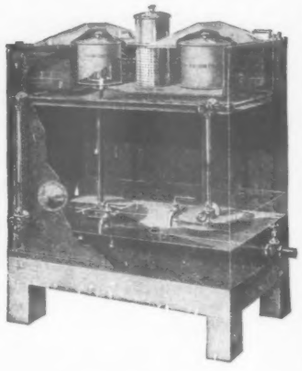
*Saves 50% to 90% of Your Lubricating Costs*



When it is considered that more than 50% of the lubricating oil at present thrown away is still in full possession of its lubricating properties, the profitableness of Burt Filters (which cleanse waste oil of all impurities, making it the same as new) is easy to understand.

The "Unit" Type Burt Filter is a flexible unit that may be used either independently or in series with other Burt "Unit" Type Filters. The series may be added to as requirements increase.

Like all Burts, the "Unit" Type is unreservedly guaranteed. Let us give you further details.

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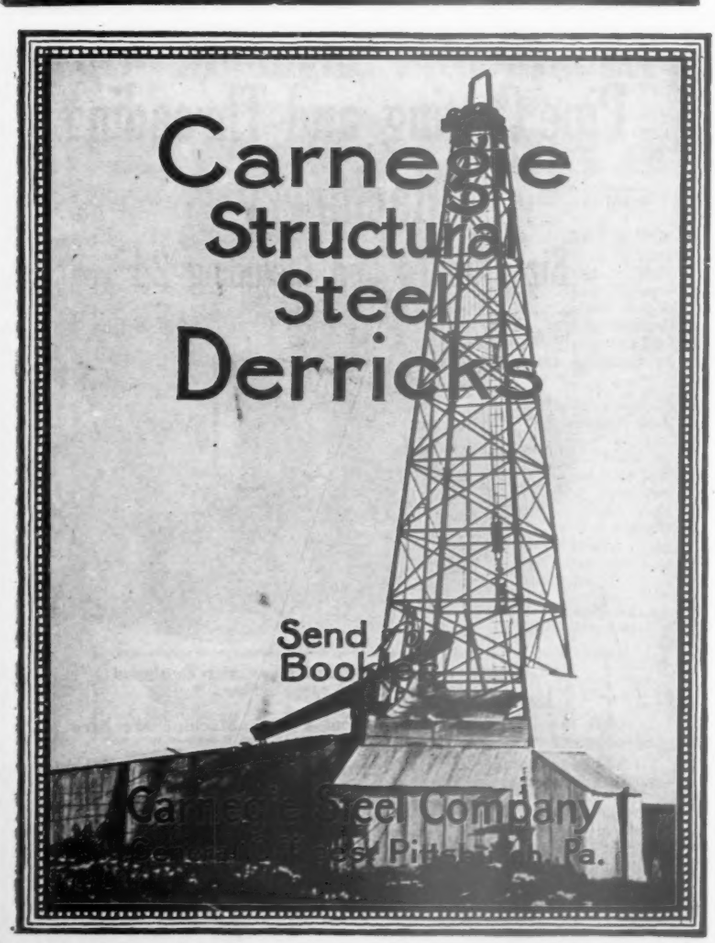



## Mexican Shipments In January Showed Increase Over 1924

By George Blardone

TAMPICO, Mexico, March 13.—Shipments of petroleum from Mexican ports of primary clearance during the month of January totaled 11,108,970 bbls., an increase over the movement in January 1924 of 1,274,169 bbls. Of this volume, the heavier oils of the Northern Fields is credited with 5,987,425 bbls., although an even larger percentage of the heavier oils is actually represented, but it is impossible to segregate the volume in mixed cargoes reported.

Of the ports dispatching, Tampico cleared 10,480,970 bbls.; Port Lobos, 198,470, and Tuxpam, 429,453 bbls.

In detail the movement follows:

**FROM TAMPICO**

**By Huasteca Petroleum Co.**

(Mexican Petroleum)

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 1 | Ss. | E. L. Doheny III, Rio Janiero | *81,165 |
| 1 | Ss. | E. L. Doheny III, Rio Janiero | † 3,980 |
| 1 | Ss. | E. L. Doheny Jr., Mont. y Buenos Aires | *77,760 |
| 1 | Ss. | C. Anderson, New Orleans | †77,350 |
| 1 | Ss. | F. K. Lane, New York | *55,507 |
| 1 | Ss. | Cerro Azul, New York | *69,226 |
| 2 | Ss. | G. G. Henry, Boston | *54,706 |
| 2 | Ss. | Fueloil, Miami | *14,152 |
| 3 | Ss. | F. R. Kellogg, Galveston | *60,111 |
| 4 | Ss. | I. C. White, Boston | *59,038 |
| 5 | Ss. | Fred Ewing, New Orleans | 58,827 |
| 5 | Ss. | W. H. Doheny, Providence | *58,385 |
| 6 | Ss. | Mexoil, Miami | * 9,405 |
| 5 | Ss. | Mexoil, Miami | † 5,916 |
| 6 | Ss. | P. H. Harwood, Galveston | *61,609 |
| 6 | Ss. | Montana, Philadelphia | 57,633 |
| 8 | Ss. | O. D. Bennett, New Orleans | †52,926 |
| 9 | Ss. | E. L. Doheny, New York | *55,996 |
| 9 | Ss. | Inverurie, Southampton | *58,564 |
| 9 | Ss. | Meline, Boston | *59,264 |
| 10 | Ss. | Chas. Harwood, New York | †34,994 |
| 10 | Ss. | C. A. Canfield, New Orleans | 55,226 |
| 10 | Ss. | S. M. Spalding, New York | *56,348 |
| 10 | Ss. | Norman Bridge, Houston | *39,872 |
| 11 | Ss. | Elisha Walker, Providence | *61,226 |
| 12 | Ss. | Wm. Green, Boston | *60,063 |
| 12 | Ss. | F. R. Kellogg, New Orleans | 62,524 |
| 13 | Ss. | J. O. Boyd, New Orleans | †19,057 |
| 14 | Ss. | H. G. Wylie, Panama | *40,322 |
| 14 | Ss. | P. H. Harwood, Galveston | *62,414 |
| 15 | Ss. | G. W. Barnes, New Orleans | †75,775 |
| 15 | Ss. | Fueloil, Miami | *14,300 |
| 16 | Ss. | Fred Ewing, Philadelphia | 56,346 |
| 16 | Ss. | J. M. Danziger, Boston | *60,755 |
| 17 | Ss. | Mendocino, New York | *59,765 |
| 17 | Ss | Mirlo, New York | *59,110 |
| 18 | Ss. | Harold Walker, New Orleans | 61,837 |
| 18 | Ss. | Norman Bridge, Houston | *40,669 |
| 19 | Ss. | Mantilla, Portland | *50,174 |
| 20 | Ss. | Inverleith, Southampton | *57,645 |
| 20 | Ss. | P. H. Harwood, Galveston | *61,793 |
| 21 | Ss. | Cerro Azul, Mont. y Beunos Aires | *74,317 |
| 22 | Ss. | Cerro Ebano, Providence | *71,376 |
| 23 | Ss. | C. A. Canfield, Providence | *54,528 |
| 23 | Ss. | F. R. Kellogg, New Orleans | *68,242 |
| 23 | Ss. | Mexoil, Miami | *14,556 |
| 24 | Ss. | F. K. Lane, New Orleans | 60,318 |
| 24 | Ss. | G. G. Henry, Boston | *56,788 |
| 24 | Ss. | G. W. Barnes, New Orleans | †75,616 |
| 24 | Ss. | Panoil, Miami | *14,482 |
| 25 | Ss. | I. C. White, Boston | *61,438 |
| 25 | Ss. | W. H. Doheny, New York | *56,773 |
| 26 | Ss. | P. H. Harwood, Galveston | *63,957 |
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| 27 | Ss. | Norman Bridge, Houston | 52,977 |
| 28 | Ss. | W. L. Steed, New Orleans | †75,789 |
| 29 | Ss. | Montana, Providence | *60,090 |
| 29 | Ss. | Harold Walker, New York | *61,293 |
| 29 | Ss. | Inverarder, Southampton | *49,856 |
| 29 | Ss. | Fueloil, Miami | *14,208 |
| 30 | Ss. | E. L. Doheny, New York | *57,033 |
| 31 | Ss. | San Leonardo, New Orleans | 52,977 |
| 31 | Ss. | S. M. Spalding, Boston | *60,135 |
| | | Bunker deliveries | 205,308 |
| | | Total | 3,491,353 |

**By Transcontinental Petroleum Co.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 1 | Ss. | Halsey, New York | 57,406 |
| 1 | Ss. | T. H. Wheeler, Port Tampa | 51,547 |
| 1 | Ss. | Princeton, Guantanamo | 41,204 |
| 4 | Ss. | Ardmore, Baton Rouge | 67,102 |
| 4 | Ss. | Vancolite, New York | 72,379 |
| 5 | Brg. | Socony 89, Providence | 24,576 |
| 5 | Ss. | Vistula, New York | 66,338 |
| 5 | Ss. | Oina, Baton Rouge | 56,961 |
| 6 | Ss. | Comet, Providence | 18,818 |
| 7 | Ss. | L. J. Drake, Jacksonville | 54,641 |
| 8 | Ss. | Muskogee, Porto Rico | 51,463 |
| 8 | Ss. | Muskogee, Porto Rico | * 7,838 |
| 9 | Ss. | Montrolite, New York | 54,887 |
| 9 | Ss. | Gedania, New York | 75,880 |
| 10 | Ss. | T. H. Wheeler, Baltimore | 55,162 |
| 11 | Ss. | Imlay, New York | 57,378 |
| 12 | Ss. | Vaarli, Philadelphia | 20,046 |
| 12 | Ss. | Bostwick, Baytown | 67,067 |
| 15 | Ss. | Casimir, Baltimore | 11,992 |
| 15 | Ss. | S. B. Hunt, Pauloboro | 60,194 |
| 15 | Ss. | Albertolite, Baltimore | 64,791 |
| 15 | Ss. | Victolite, Panama | *72,958 |
| 17 | Ss. | Princeton, Key West | 2,685 |
| 18 | Ss. | Oina, Baton Rouge | 59,040 |
| 18 | Ss. | Cape Ann, New York | 55,193 |
| 19 | Ss. | Cape Cod, New York | 55,813 |
| 19 | Ss. | Pioneer, Port Tampa | 47,364 |
| 20 | Ss. | Matinicock, Baytown | 68,221 |
| 20 | Brg. | Socony 90, Providence | 25,281 |
| 20 | Ss. | Brilliant, Providence | 19,663 |
| 20 | Ss. | L. J. Drake, Baltimore | 24,224 |
| 20 | Ss. | L. J. Drake, Baltimore | †38,439 |
| 21 | Ss. | Catahoula, Baltimore | 43,967 |
| 22 | Ss. | Glenpool, Key West | 39,852 |
| 23 | Ss. | Malmanger, New Orleans | 61,489 |
| 24 | Ss. | Dillwyn, New York | 60,456 |
| 24 | Ss. | Ballhill, Boston | 5,143 |
| 25 | Ss. | Vancolite, New York | 78,114 |
| 25 | Ss. | Eurana, New York | 60,435 |


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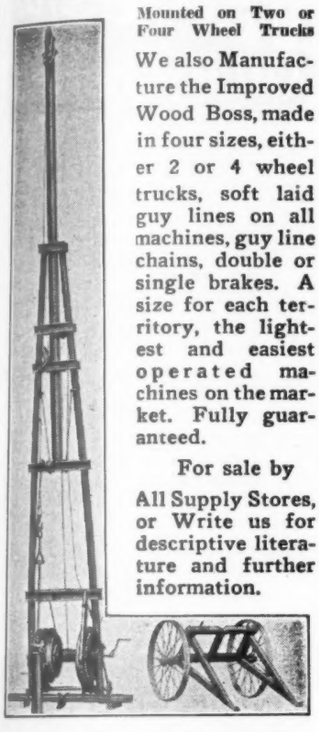

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| | | | |
|---|---|---|---|
| 26 | Ss. | Vistula, Baltimore | 75,301 |
| 28 | Ss. | Durango, New York | 58,919 |
| 28 | Ss. | James McGee, Texas City | 82,585 |
| 28 | Ss. | Cedarhurst, New York | 41,760 |
| 29 | Ss. | Meranin, Baton Rouge | 61,334 |
| 29 | Ss. | Aztec, Baton Rouge | 33,362 |
| 29 | Ss. | Golan, Baytown | 54,816 |
| 29 | Ss. | Princetown, Havana-Mariel, Cuba | 47,270 |
| 30 | Ss. | Matinicock, Charleston | 70,889 |
| 30 | Ss. | Aztec, New York | 14,394 |
| 31 | Ss. | H. M. Flagler, Baltimore | 69,185 |
| | | Bunker deliveries | 118,393 |
| | | Total | 2,585,205 |

**By Cia. Mexicana Holandesa La Corona, S.A.**
(Royal Dutch-Shell)

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 1 | Ss. | Limicana, Holland | 45,301 |
| 3 | Ss. | Malmanger, New Orleans | 61,107 |
| 6 | Ss. | F.-Sulphur 1, Freport | 5,706 |
| 6 | Ss. | F-Sulphur 6, Freport | 25,971 |
| 10 | Ss. | Caloria, Puerto Padre, Cuba | 6,711 |
| 12 | Ss. | Maricopa, Bayonne | 49,169 |
| 12 | Ss. | Maricopa, New York | * 8,771 |
| 13 | Ss. | Vaarli, Philadelphia | 32,747 |
| 14 | Ss. | San Joapuin, New York | *58,704 |
| 14 | Ss. | Malmanger, New Orleans | 60,159 |
| 15 | Ss. | Crenatula, Marseilles | *49,242 |
| 15 | Ss. | British Light, London | 49,015 |
| 16 | Ss. | Candem, Columbia | *21,023 |
| 16 | Ss. | Candem, Panama | *25,191 |
| 18 | Ss. | Nina, Hamburg | *28,134 |
| 18 | Ss. | Corbis, London | *48,032 |
| 18 | Ss. | Dora, New York | 47,591 |
| 19 | Ss. | Bethelridge, Boston | 59,348 |
| 23 | Ss. | Conus, New York | *51,273 |
| 24 | Ss. | Ballhill, Boston | 48,269 |
| 24 | Ss. | Malmanger, New Orleans | 61,489 |
| 24 | Ss. | F-Sulphur 1, Banes, Cuba | 17,896 |
| 25 | Ss. | San Ricardo, Holland | 49 890 |
| 31 | Ss. | San Lamberto, Lisbon | *52,153 |
| | | Coastwise deliveries | 157,029 |
| | | Bunker deliveries | 84,089 |
| | | Total | 1,213,960 |

**By Mexican Eagle Oil Co., Ltd.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 5 | Ss. | San Silvestre, London | *55,244 |
| 5 | Ss. | San Manuel, Philadelphia | *48,597 |
| 7 | Ss. | San Macedonio, London | †58,590 |
| 12 | Ss. | San Fraterno, Lizard f/o | *85,975 |
| 13 | Ss. | San Zotico, New York | *50,885 |
| 13 | Ss. | San Salvador, Buenos Aires y Valparaiso | †60,287 |
| 16 | Ss. | San Zeferino, Glasgow | *51,630 |
| 16 | Ss. | San Gerardo, Lizard f/o | *70,025 |
| 19 | Ss. | San Lamberto, Havana | *52,223 |
| 27 | Ss. | Ovid, Rosario y Santa Fe, Argentine | †15,796 |
| 30 | Ss. | San Rosendo, London | *58,285 |
| 30 | Ss. | San Melito, Buenos Aires y Santos | *85,597 |
| 31 | Ss. | San Leopoldo, Rio Janeiro | *24,420 |
| 31 | Ss. | San Leopoldo, Rio Janeiro | †28,095 |
| 31 | Ss. | San Patricio, Devonport | *89,195 |
| | | Coastwise deliveries | † 9,685 |
| | | Coastwise deliveries | *49,056 |
| | | Bunker deliveries | 71,326 |
| | | Total | 945,020 |

**By Mexican Sinclair Petroleum Corp.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 2 | Ss. | Gene Crawley, New Orl'ns | 32,297 |
| 4 | Ss. | A. E. Watts, Cuba | 64,418 |
| 8 | Ss. | Harry Farnum, New Orleans | 32,182 |
| 10 | Ss. | W. L. Connelly, P. Barrios, C. A. | 32,240 |
| 13 | Ss. | E. W. Sinclair, Cuba | 44,735 |
| 13 | Ss. | Madrono, Cuba | 51,672 |
| 14 | Ss. | J. F. Farrell, New Orl'ns | 61,397 |
| 19 | Ss. | A. E. Watts, Cuba | 63,500 |
| 19 | Ss. | Harry Farnum, New Orleans | 30,649 |
| 24 | Ss. | J. F. Farrell, Cuba | 62,220 |
| 24 | Ss. | Madrone, New Orleans | 53,887 |
| 25 | Ss. | W. L. Connelly, Cuba | 32,466 |
| 25 | Ss. | Gene Crawley, Cuba | 32,075 |
| 29 | Ss. | E. W. Sinclair, New Orleans | 46,296 |
| 29 | Ss. | Harry Farnum, Cuba | 30,169 |
| | | Total | 670,203 |

**By Mexican Gulf Oil Co.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 1 | Ss. | Gulfoil, Port Arthur | 50,022 |
| 1 | Brg. | Shenango, Port Arthur | 23,747 |
| 2 | Ss. | J M Guffey, Port Arthur | 20,110 |
| 6 | Ss. | Ligonier, Port Arthur | 33,269 |
| 7 | Ss. | Winifred, Savannah | 19,148 |
| 9 | Ss. | Durango, Baltimore | 57,610 |
| 12 | Ss. | Gulfpoint, Galveston | 60,081 |
| 14 | Ss. | Gulfstate, Port Arthur | 62,149 |
| 19 | Ss. | Currier, Port Arthur | 45,431 |
| 21 | Ss. | Ligonier, Port Tampa | 30,222 |
| 25 | Ss. | Gulfstar, Port Arthur | 72,033 |
| 26 | Brg. | Conemaugh, Port Arthur | 17,640 |
| 28 | Ss. | J. M. Guffey, Galveston | 19,211 |
| 29 | Ss. | Gulfoil, Port Arthur | 49,926 |
| 29 | Brg. | Shenango, Port Arthur | 23,016 |
| | | Bunker deliveries | 16,790 |
| | | Total | 600,405 |

**By East Coast Oil Co.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 1 | Ss. | Topila, New Orleans | 51,270 |
| 5 | Ss. | Torres, Galveston | 51,017 |
| 6 | Ss. | F-Sulphur 1, Freeport | 14,571 |
| 12 | Ss. | F-Sulphur 1, Freport | 18,406 |
| 14 | Ss. | Torres, Galveston | 52,107 |
| 16 | Ss. | F-Sulphur 6, Freeport | 37,466 |
| 18 | Ss. | F-Sulphur 1, Freeport | 19,390 |
| 21 | Ss. | Topila, New Orleans | 49,834 |
| 23 | Ss. | F-Sulphur 6, Freeport | 37,353 |
| 24 | Ss. | Torres, New Orleans | 51,939 |
| 28 | Ss. | F-Sulphur 6, Freeport | 25,647 |
| | | Bunker deliveries | 6,768 |
| | | Total | 395,768 |

**By The Texas Co.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 1 | Ss. | Louisiana, Matanzas y Sagua | 25,557 |
| 5 | Ss. | Pennsylvania, Marcus Hook | *52,335 |
| 26 | Ss. | Texas, Port Neches | 60,033 |
| 29 | Ss. | Pennsylvania, Port Arthur | 56,689 |
| | | Bunker deliveries | 8,009 |
| | | Total | 202,623 |

**By New England Fuel Oil Co.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 5 | Ss. | Chuky, Tocopilla | 56,616 |
| 16 | Ss. | Princeton, Key West | 46,519 |
| | | Bunker deliveries | 6,254 |
| | | Total | 109,389 |

**By Empire Gas & Fuel Co.**

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 15 | Ss. | Mexicano, Fall River | 16,696 |
| 18 | Ss. | Cedarhurst, New Orleans | 43,689 |


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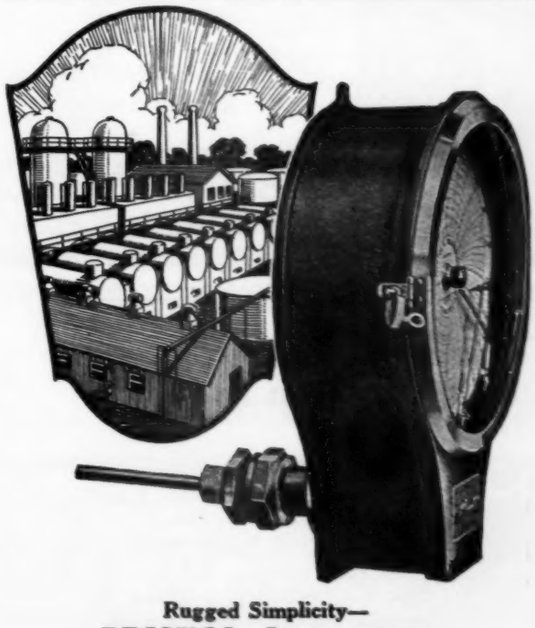

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| | | | |
|---|---|---|---|
| 22 | Ss. | Hampton Roads, Phila. .. | 42,052 |
| | | Total ..... | 102,437 |

By Pierce Oil Corp.

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 6 | Ss. | Aztec, Philadelphia ..... | *48,132 |
| 22 | Ss. | Hampton Roads, Phila. ... | *16,334 |
| | | Bunker deliveries ..... | 9,796 |
| | | Total ..... | 74,262 |

By International Petroleum Co.

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 9 | Ss. | Glenpool, Havana ..... | 43,527 |

By Cia. Petrolera El Sol, S. A.

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 24 | Ss. | Caloria, Puerta Padre, Cuba | 32,839 |

By Interocean Oil Co.

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 19 | Ss. | Cassimir, Baltimore ..... | 13,979 |

FROM PORT LOBOS

By Transcontinental Petroleum Co.

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 5 | Ss. | Vancolite, New York .... | 26,243 |
| 6 | Ss. | Vistula, New York ..... | 23,528 |
| 11 | Ss. | Gedania, New York ..... | 15,532 |
| 11 | Ss. | Montrolite, New York ... | 10,483 |
| 16 | Ss. | Albertolite, Baltimore ... | 20,011 |
| 27 | Ss. | Vancolite, New York .... | 15,493 |
| 28 | Ss. | Vistula, Baltimore ..... | 15,886 |
| | | Total ..... | 127,176 |

By Island Oil & Transport Corp.

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 4 | Ss. | Dillwyn, Baltimore ..... | 71,294 |

FROM TUXPAM

By Mexican Eagle Oil Co., Ltd.

| Jan. | Rig. | Vessel and destination— | Bbls. |
|---|---|---|---|
| 2 | Ss. | Scottish Minstrel, Land's End f/o ..... | * 3,429 |
| 3 | Ss. | San Fabian, Rio Janeiro y Mont. ..... | *37,554 |
| 13 | Ss. | San Fraterno, Lizard f/o.. | *11,372 |
| 19 | Ss. | San Gerardo, Lizard f/o.. | *32,729 |
| 20 | Ss. | San Lamberto Havana .. | *4,695 |
| | | Coastwise deliveries ..... | 305,516 |
| | | Bunker deliveries ..... | 34,158 |
| | | Total ..... | 429,453 |

JANUARY SUMMARY

| From— | Bbls. |
|---|---|
| Tampico ..... | 10,480,970 |
| Port Lobos ..... | 198,470 |
| Tuxpam ..... | 429,453 |
| Total, January, 1925 ..... | 11,108,893 |
| Total, January, 1924 ..... | 9,834,724 |
| Increase, January, 1925 ..... | 1,274,169 |

DIVISION OF MOVEMENT

| To— | Bbls. |
|---|---|
| United States ..... | 7,641,393 |
| United Kingdom ..... | 759,586 |
| Cuba ..... | 653,177 |
| South America ..... | 576,630 |
| Mexican coastwise ..... | 521,285 |
| Continent ..... | 294,720 |
| Panama ..... | 138,471 |
| Central America ..... | 32,240 |
| Bunkers (to balance) ..... | 560,891 |
| Total ..... | 11,108,893 |

CLASSES

| | |
|---|---|
| Crudes ..... | 6,175,603 |
| Topped crudes ..... | 3,721,180 |
| Distillates ..... | 651,219 |
| Bunkers (to balance) ..... | 560,891 |
| Total ..... | 11,108,893 |

*Topped crude. †Distillates.

## TWO WELLS COMPLETED IN ARTESIA, N. M., FIELD

By William McGinn

ARTESIA, N. M., March 14.—The bringing in of two more wells and the deepening of No. 1 Roswell of the New States Oil Co., which materially increased the production featured the activities of this field for the week. The new completions are the Flynn-Welch & Yates' Nos. 6 and 8, both of which are in the proven area. No. 6 is expected to rank with the other small producers of this company with No. 8 apparently a good well, as it is the west offset to the Twin Lakes' No. 2, the best producer in the field. Both wells will be shot.

The New States well which has been a small producer from a depth of 2,254 feet, has been drilled in 5 feet more and according to officials of the company, swabbed 75 bbls. in less than an hour.

Of considerable interest to local operators is information received that the Government is preparing to be more severe in its handling of drilling permits. It has been the custom in the past to allow extensions to permit owners in regard to the drilling of the first 500 feet. As hundreds of thousands of acres have been filed on by persons, other than oil operators, who are unable financially to drill a well it has proved a hardship on the legitimate oil men who are anxious to carry out development work.

Following is a location and drilling report of the field: W. C. Wells has made a location in the center of Section 19-20-30 for a well to 2,500 feet. A. R. Goodale has made locations for his No. 2 to be 400 feet from the California No. 1, which recently extended the field 5 miles to the east and No. 3, which will be 400 feet north of No. 2. George Bobb, location in the SW SW, Section 26-18-28. Levers and others' location in the SE NE, Section 1-18-28. Picher Oil Co., moving rig for No. 2 in NE SE, Section 1-27-18. D. C. Cheesman's No. 1, drill-

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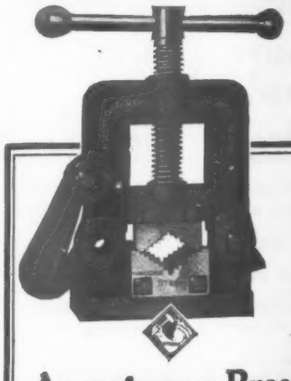

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ing at 500 feet; McNutt and others' No. 1, drilling at 450 feet; Keys and others' No. 1, drilling at 2,350 feet, will be carried down to 2,500 feet; Maljamar Oil Co.'s No. 1, drilling at 550 feet; Twin Lakes' No. 3, drilling at 100 feet; Dancigar No. 1, drilling at 1,500 feet; Gilliland's No. 1, drilling at 1,000 feet; Ohio Oil, on Tracy permit, drilling at 1,800 feet; Flynn, Welch & Yates' No. 10, drilling at 800 feet; Arnott & Gross, moving tools in, Ohio Oil Co.'s No. 2 in the S half of Section 1-19-28, ready to spud; Donahue No. 1 in Section 11-16-27, drilling at 700 feet; Rotary Oil Co.'s No. 2, drilling at 100 feet; Snowden-McSweeney's No. 1 spudding in.

## REPLACEMENT OF COAL BY COMPETITIVE OIL

In reviewing the relative growth in the use of coal, oil and water power in the United States, officials of the United States Geological Survey find that the economies in fuel utilization are not large enough in the aggregate to account for all the slowing up in the demand for coal. The gap between mine capacity and market capacity has brought distress because, it has become wider rather than narrower, and the contributing cause, whose full importance the coal industry has not sensed, as pointed out by officials, is the competition of other fuels and other sources of power. Some may firmly believe and strongly contend that coal far outranks water as a source of power and in any contest with oil it will ultimately win but the fact stands that the competitive struggle is on, a struggle fraught with the possibility of large effects upon both the coal industry and the oil industry, and not without deep interest to the general public.

The actual replacement of coal with fuel oil, in plants that formerly used coal, has in recent years amounted to 2, 3 or perhaps 5 per cent. Yet this is not the whole story. Cheap gasoline, though not in direct and obvious competition with coal, has enabled the automobile and truck to compete with the steam and electric railroads. Water power developments subtract from the demand for coal. Thus, the problem is to measure the country's increasing demand for energy and to determine the rates of growth of these different sources of energy—coal, oil, gas and water.

Roughly, the annual supply of energy has trebled since the beginning of this century, but in 1924 shows no net gain over 1918

The relative growth of oil and gas as competitors of coal are directly shown by the fact that though in 1918 these fluid fuels contributed about 14 per cent of the total energy, they now contribute about 27 per cent. Water power is far behind, contributing only 4 or 5 per cent of the total. Hence, the real competitor of the coal mine just now is the oil well, not the water wheel.

From the standpoint of practical conservation, this competition is regrettable, for water power is a continuing resource and oil supply is undeniably limited in a sense not at all true of coal supply. The replacement of coal by fuel oil for raising steam is doubly regrettable, for this is an inferior use of a superior fuel that has been stimulated by the present overproduction of oil, which is hastening the day of relative scarcity, according to Government officials.

## VACUUM SALES CONFERENCE

MINNEAPOLIS, Minn., March 13.—Fifty members of the sales force of the Vacuum Oil Co. in the northwest assembled at the Curtis Hotel in Minneapolis last week for the annual conference. Talks to the men were made by C. B. White, division manager, and T. B. Luccock, general northwest manager, both of Chicago, and A. J. Lovejoy of New York, assistant general manager. R. F. Wiggin and Russell Brown of New York, who are connected with the advertising department, participated in the conference. L. B. Roberts, local manager, presided.

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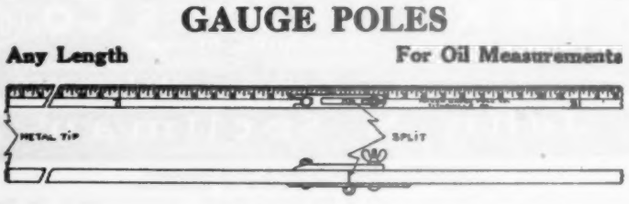


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## February Receipts By Water Were Less At Atlantic Ports

By N. O. Fanning

NEW YORK, March 14.—Receipts of crude and refined petroleum by water at Atlantic Coast ports during February are estimated at 12,866,000 bbls., a daily average of 460,000 bbls. This compares with 16,148,000 bbls., or 520,000 daily in January and with 13,330,000 bbls. or 457,000 bbls. daily, in February, 1924.

Receipts from the Gulf Coast during February were 262,000 bbls. daily, against 311,000 bbls. daily during January and 174,000 bbls. daily in February a year ago. Receipts from California dropped to the lowest average in more than two years, 51,000 bbls. daily, compared with 77,000 bbls. in January and with 175,000 bbls. in February, 1924.

Imports increased materially in February, averaging 147,000 bbls. daily, of which 130,000 bbls. daily were from Mexico and 17,000 from Peru, Trinidad and Venezuela. In January imports averaged 133,000 bbls. daily, and in February, 1924, to 108,000 bbls. daily.

### Features in February

Beside the gain in imports and drop in receipts from the Pacific Coast, a decline in receipts from Baton Rouge and New Orleans was the feature of the February report. These averaged 58,000 bbls. daily, compared with 97,000 bbls. the preceding month. Receipts from the Houston, or Galveston district, averaged 104,000 bbls. daily, compared with 92,000 bbls. in January.

The following table shows estimated receipts from the various shipping districts during February, giving totals and daily averages (in barrels):

| | Total | Daily |
|---|---|---|
| Port Arthur | 2,783,000 | 100,000 |
| Baton Rouge and New Orleans | 1,602,000 | 58,000 |
| Texas City | 2,922,000 | 104,000 |
| Pacific Coast | 1,445,000 | 51,000 |
| Mexico | 3,636,000 | 130,000 |
| Peru, Trinidad, Venezuela | 478,000 | 17,000 |
| Total | 12,866,000 | 460,000 |

The decline in receipts during February compared with January, when 520,000 bbls. of crude and refined oils daily were received on the average, is attributed to a slowing up in consumption and refinery operations on the Atlantic Coast. Indications already in March are that a gain in operations will be recorded compared with the February rate.

### Less to Smaller Companies

A significant feature of the February report is that the larger companies maintained shipments to their refineries and distributing stations along the Atlantic Seaboard at close to, or even better than, the high January rate, while the smaller companies received only about half as much. One feature of the market that this is believed to reflect is the difficulty on the part of smaller interest to obtain supplies of either crude or refined oil, as what is available has already been contracted for. Now and then some crude or refined can be picked up in the Mid-Continent, Mexico or California in small quantities, but so far as the open market is concerned, oil is scarce.

Daily average receipts in February and January as estimated from the capacity of incoming oil-laden tankers of the companies named, were as follows (in barrels):

| | February | January |
|---|---|---|
| Standard of New Jersey | 139,000 | 141,000 |
| Pan American Petroleum | 51,000 | 39,000 |
| Gulf Refining | 46,000 | 39,000 |
| The Texas Co. | 22,000 | 23,000 |
| Atlantic Refining | 24,000 | 36,000 |
| Atlantic Gulf Oil | 34,000 | 26,000 |
| Standard of New York | 9,000 | 18,000 |
| Sun Oil Co. | 15,000 | 12,000 |
| Vacuum Oil | 5,000 | 12,000 |
| U. S. Shipping Board | 17,000 | 25,000 |
| C. D. Mallory & Co. | 20,000 | 24,000 |
| Miscellaneous consignments | 79,000 | 125,000 |
| Total | 460,000 | 520,000 |

Incidentally, the decline in receipts by the so-called "miscellaneous" companies was in a great measure due to smaller purchases of California oil. These concerns received 23,000 bbls. daily from the Pacific Coast in January, but only 6,000 bbls. in February. Their receipts from all Gulf ports also fell off in February,

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but they are credited with getting 38,000 bbls. from Mexico, as against 35,000 bbls. daily in January.

## Argentine Refinery To Operate in Fall Says Chief Chemist

The new refinery which the Argentine Government is constructing at Buenos Aires will be in operation early next fall according to Dr. J. L. Landaburu, chief chemist for the Government who is now visiting in the United States. The contract for the erection of the plant was recently awarded to the Bethlehem Steel Co. and all equipment will be obtained from manufacturers located in the United States. The plant will have a capacity of 14,000 bbls. daily when completed with provision made for the construction of additional units when needed.

Doctor Landaburu left Argentine shortly after the first of the year on an inspection tour of fields in the United States. He expects to remain in the United States at least six months. Accompanied by R. J. Ryberg, assistant chief chemist, he has recently been visiting the Mid-Continent section. Both attended the annual convention of the Western Petroleum Refiners Association last week at Kansas City, Mo.

The new refinery will be modern in every respect. Although decision has not yet been made as to the particular process which will be installed, the refinery when completed will have a cracking plant. At the present time about 80 per cent of the crude runs to stills is fuel oil. Of the 20 per cent which is distilled only 4 per cent is gasoline. The Government expects to be able to secure a much greater gasoline yield by cracking both the residuum and the lower end distilled product.

The crude for the refinery will be secured from the Comodoro Rivadavia oil field of south Argentine. The Government and private interests are rapidly developing this field which is near the coast. It will require about four days by tanker to deliver the crude at the Buenos Aires refinery. The crude is of 22-24 gravity of both asphalt and paraffin base.

Although the casinghead gas in this field is lean in gasoline content, the natural gasoline plant which the Government constructed is giving very satisfactory results according to Doctor Landaburu. The plant is the charcoal absorption type. Through recent changes in operation methods, the output of the plant was recently doubled.

Doctor Landaburu believes that both the production and consumption of crude and refined products in Argentine will continue to increase in the future. In regard to crude he believes the production possibilities are not generally realized, even in Argentine. At the present time he says lack of pipe line transportation is holding back development, a condition which will be remedied as soon as adequate refining capacity is available. There is a steady and slowly increasing demand for refined products. At present the Argentine Navy and railways are taking all the fuel oil output.

### DEATH OF W. M. OSBORNE

W. M. Osborne, a retired oil man and manufacturer, died in a hospital in Guthrie, Okla., last week. He suffered a stroke of apoplexy a few days before.

Mr. Osborne was born in Tidioute, Pa., July 13, 1862. He went to the Bradford Field in the early days and for years was engaged in the rig and reel business with the late Alex Watson. He left Bradford for Parkersburg, W. Va., where he was associated with the Parkersburg Rig & Reel Co., going thence to Beaumont, Tex., in the early days of the development there. He started the Parkersburg Tank Co., which he successfully conducted for many years. Mr. Osborne accumulated a comfortable fortune in the oil business. He retired a few years ago, and about a year ago came to Tulsa to spend the balance of his days.

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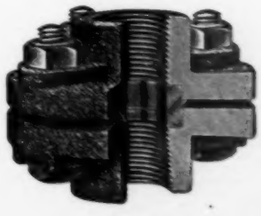
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# Detailed Operations in Eastern Fields for February, 1925

## EASTERN FIELDS

**Summary of Wells Completed**

| Fields— | Comp. | Prod. | Dry | Gas |
|---|---|---|---|---|
| Allegany | 14 | 29 | 1 | 0 |
| Bradford | 73 | 175 | 2 | 1 |
| Middle Field | 5 | 4 | 0 | 1 |
| Venango-Clarion | 22 | 24 | 3 | 3 |
| Butler-Armstrong | 8 | 8 | 1 | 3 |
| Southwest Pennsylvania | 26 | 20 | 4 | 16 |
| West Virginia | 65 | 262 | 10 | 35 |
| Southeast Ohio | 58 | 488 | 11 | 8 |
| Total February | 269 | 1,010 | 32 | 67 |
| Total January | 291 | 1,327 | 45 | 70 |
| Difference | 22 | 317 | 13 | 3 |

| Fields— | Rigs | Drg. | Tt.l |
|---|---|---|---|
| Allegany | 14 | 10 | 24 |
| Bradford | 24 | 63 | 87 |
| Middle Field | 3 | 5 | 7 |
| Venango-Clarion | 5 | 24 | 29 |
| Butler-Armstrong | 12 | 12 | 24 |
| Southwest Pennsylvania | 7 | 29 | 36 |
| West Virginia | 61 | 124 | 185 |
| Southeast Ohio | 43 | 97 | 140 |
| Total Feb. 28 | 168 | 364 | 532 |
| Total Jan. 31 | 164 | 369 | 533 |
| Difference | 4 | 5 | 1 |

### WELLS COMPLETED
### ALLEGANY FIELD

Fee, Empire Gas & Fuel, Ltd. ..... 3
Kinley Oil, Hungerford and Cuba National Bank ..... 1
Coon, Romeo Oil ..... dry
Cass, F. J. Wilson ..... 1
Kinley Oil, W. J. Weller & Co. ..... wtr
Kinley Oil, W. J. Weller & Co. ..... wtr
Fee, F. J. Woodward et al ..... 1
Fee, J. E. LeSuer et al ..... 2
Fee, F. J. LeSuer et al ..... 3
Fee, R. J. Dermitt ..... 5
Fee, Heniine et al ..... 1
Fee, T. J. Gilligan et al ..... 5
Fee, T. J. Gilligan et al ..... 5
Fee, L. A. Wilson ..... 2

| | |
|---|---|
| Wells completed | 14 |
| Production | 29 |
| Dry | 1 |
| Water | 2 |

### BRADFORD FIELD

Bing. 388, C. L. Wann et al 45 ..... 1
Bing. 490, T. H. Kennedy Co. No. 2. 127 ..... 4
Bing. 368, Forest Oil No. 9, 42 ..... 5
Bing. 170, Elder Redfield et al 45 ..... 6
Bing. 296, Andrus & McDowell 90 ..... 2
Weston, Jr., Tr., South Penn Oil 81 ..... 2
Weston, Jr., Tr., South Penn Oil 82 ..... 2
Riddell Est., South Penn Oil 44 ..... 2
Franchot, John Jackson 16 ..... 2
Helenbrook et al, Jackson et al ..... 5
Fee, Mrs. J. T. Jones ..... 2
Clark, Clark & Marsh ..... 2
Quintuple Oil, Moore & Bradley ..... 2
Fee, South Penn Oil ..... 1
Bing., Associated Producers 317 ..... 3
Bing., Associated Producers 311 ..... 2
Bing., Associated Producers 314 ..... 2
Bing., Associated Producers 315 ..... 2
Bing., Associated Producers 316 ..... 3
Bing. 410, South Penn Oil ..... 10
Bing. 423, South Penn Oil ..... 2
Bing. 439, South Penn Oil ..... 2
Bing. 554, South Penn Oil ..... 5
Bing. 570, South Penn Oil 97 ..... 4
Bing. 499, South Penn Oil 38 ..... 6
Bing. 429, South Penn Oil 75 ..... 2
Bing. 568, South Penn Oil 334 ..... 4
Bing. 533, Associated Producers 65 ..... 6
Bing. 533, South Penn Oil 67 ..... 1
Bing. 576, South Penn Oil 102 ..... gas
Bing. 590, Associated Producers 338 ..... 4
Howard, Pressure Oil ..... 5
Duke, Gridiron Oil ..... 3
Borden, Raff & Schwab ..... 1
Borden, T. B. Wilson ..... 1
Shepard, South Penn Oil ..... 1
Jones, South Penn Oil ..... 1
Baldwin, Forest Oil ..... 3
Porter, Forest Oil ..... 3
Noble, Forest Oil ..... 2
Burns, Arthur E. Yahn ..... 2
Gelfin, Simpson & Cooper ..... 2
D. C. & B., George & Kervin ..... 3
Ekas, R. C. Lloyd ..... 2
Richardson, Hope Oil ..... 1
Richardson, Hope Oil ..... 1
Jack, J. H. & M. Jack ..... 2
Farr, G. S. VanVetchen & Son ..... 2
Murphy, Forest Oil ..... 1
Fee, Skagg Bros. ..... 2
Fee, L. H. Smith ..... 1
Fee, B. M. Mott ..... 2
Fee, F. S. Boquin ..... 2
Fee, B. Devlin ..... 1
Melvin, South Penn Oil ..... 1
Melvin, South Penn Oil ..... 1
Roggenbaum, J. Roggenbaum ..... 1
Lafferty, George & George ..... 2
Nesselson, Nesselson Bros. ..... dry
Reserve, McGregor & Grant ..... 2
Bing. 150, South Penn Oil 57 ..... 5
Bing. 184, Associated Producers 336 ..... 2
Bing. 452, South Penn Oil 51 ..... wtr
Fee, South Penn Oil 34 ..... 1
Bing. 176, Hazelwood & Kennedy 102 ..... 3
Fee, W. C. Kennedy Co. ..... 2
Erie R. R., E. P. Connors 8 ..... 1
Emerson, South Penn Oil ..... 4
Hamlin, S. H. Elder & Co. ..... 2
Lawton, Oil City Trust ..... 2
Bingham South Penn Oil ..... 5
Bingham Andrus & MacDowell ..... 1
Lawton Oil City Trust ..... dry

| | |
|---|---|
| Wells completed | 72 |
| Production | 175 |
| Dry | 2 |
| Gas | 1 |
| Water | 1 |

### MIDDLE FIELD

Eaton, Eaton Bros. ..... gas
Rogers, F. H. Trax ..... 1
Mack, S. M. Mack ..... 1
Thompson, T. B. Clemінger 1 ..... 1
Lot 3767, F. J. Moser 24 ..... 1

| | |
|---|---|
| Wells completed | 5 |
| Production | 4 |
| Gas | 1 |

### VENANGO-CLARION

Troutner, Rossman & Turner 3 ..... dry
Troutner, Rossman & Turner 4 ..... 2
Kern, C. B. Kern 10 ..... 1
Osborn, Carrie W. Tracey, 25 ..... 1
P. & B., Leadenham & Hancox 2 ..... 1
Neal, Kelly heirs et al 61 ..... 3
Smith, Smith, Brutche & Turk 13 ..... 2
White, Corbett & White 14 ..... 1
Zimmerman, Adam Zimmerman&Sons 5 ..... 1
Grant, Kelley, Trax & Parker 1 ..... 1
Grant, Kelley, Trax & Parker 2 ..... 1
Grant, Kelley, Trax & Parker 3 ..... 1
Crystal Springs, Jackson Oil & Gas 7 ..... 1
Clarion—
Wentling, V. Glass 1 ..... dry
Rhodes, Hovis, Miller et al 1 ..... gas
Hoover, Shields & Hoover ..... 1
Brenneman, O'Neil & Co. 2 ..... dry
Reed tract, Levi & Co. 3 ..... 1
Wilson tract, Wilson & Co. ..... 5
Wilson tract, Wilson & Co. ..... 1
Avery, Agnew & Co. 1 ..... gas
Angle, Angle & Co. 1 ..... gas

| | |
|---|---|
| Wells completed | 22 |
| Production | 24 |
| Dry | 3 |
| Gas | 3 |

### BUTLER-ARMSTRONG

Woods, Woods & Heeter 1 ..... gas
Taylor, Birchbickler Bros. 2 ..... dry
Huselton, John M. Hicks 21 ..... 2
Frazier, Pittsburgh Co. 1 ..... gas
Luntz, William Burke, 1 ..... 2
Steeb, R. Steeb et al 1 ..... 1
Wilson Est., E. H. Hutchison 2 ..... gas
Campbell, H. H. Campbell 4 ..... 3

| | |
|---|---|
| Wells completed | 8 |
| Production | 8 |
| Dry | 1 |
| Gas | 3 |

### ALLEGANY FIELD
**Rigs**

Fee, Empire Gas & Fuel, Ltd.
Reid, Agt., Randall & McEnroe.
Fee, Clyde Jordan.
Cass, F. J. Wilson.
Fee, M. A. Jordan.
Kinley Oil, W. J. Weller et al.
Coon, Romeo Oil.
Fee, Turner, Cady & Allen.
Fee, J. E. LeSuer et al.
Fee, T. J. Gilligan et al.
Fee, Cuba National Bank No. 4.
Fee, Turner Oil Corp.
Fee, E. J. Phillips etl al.
Fee, C. L. Childs et al.

**Wells Drilling**

Taylor, C. W. Taylor & Sons.
Fee, A. C. A. Oil Corp.
Fee, Carsius Condon.
Fee, Phillips & Howard.
Murphy & Murphy, First National Bank of Shingiehouse.
Fee, L. W. Shaner et al.
Fee, Henline et al.
Fee, C. W. Mead.
Bing. 439, South Penn Oil 77.
Fee, Martin O'Connor.
Rigs, 14; wells drilling, 10; total, 24.

### BRADFORD FIELD
**Rigs**

Bing. 296, Andrus & MacDowell 97, 98.
Vincent heirs, S. H. Elder et al 14.
South Penn Oil, Wright et al 16.
Bing. 391, George W. Bovaird 75.
Bing. 368, Forest Oil, Inc., No. 99, 43.
Weston, Jr., Tr., South Penn Oil 83, 84.
Riddell Est., South Penn Oil 45.
Bonds & Lawrence, South Penn Oil 44.
Fee, L. G. Dana, 16.
Franchot, D. & P. Oil 25.
Drake, Harmon Oil.
Fee, Mrs. J. T. Jones (two rigs).
Bing. 439, South Penn Oil 78.
Bing. 533, South Penn Oil 70.
Bing. 579, South Penn Oil 105.
Fee, South Penn Oil.
Porter, Forest Oil.
Howard, Pressure Oil.
Borden, Raff & Schwab.
Duke, Duke & Blair.
Lawton, Oil City Trust.

**Wells Drilling**

Bing. 490, T. H. Kennedy Co. No. 2, 128.
Bing. 370, R. M. & James George 16.
Bing. 370, C. L. Wann et al 37.
Bing. 541, Park & Bovaird 27.
Ling. 391, George W. Bovaird 74.
Fee, A. W. McCandless & Son 3.
Fee, W. E. & W. W. Parmenter 27.
Glugston et al, Parker Farm Oil 11.
Fee, E. A. Potter 2.
Fee, A. E. Schorman 17.
Fee, E. L. & F. J. Shippey 12.
Franchot, H. E. Heeley 19.
Lee, Jeutter Bros. 9.
Fee, L. G. Dana.
Fee, Mrs. J. T. Jones.
Clark, Clark & Marsh.
Bing., Associated Producers 150, 151.
Bing. 188, Harris Oil.
Fee, South Penn Oil.
Fee, Barry Estate.
Bing. 439, South Penn Oil.
Bing. 554, South Penn Oil.
Bing. 581, Associated Producers 339.
Bing. 570, South Penn Oil 104.
Bing. 533, South Penn Oil 68.
Bing. 439, South Penn Oil 77.
Bing. 499, South Penn Oil 39.
Bing. 576, South Penn Oil 103.
Bing. 591, Associated Producers 332.
Fee, W. C. Kennedy Co. 45.
Bing. 150, South Penn Oil 58.
Bing. 452, South Penn Oil 52.
Bing. 184, Associated Producers 340.
Fee, South Penn Oil 18.
Phoenix & Kennedy, Holding Oil Corp. 20.
Howard, Pressure Oil.
Doubleday, Pressure Oil.
Duke, Gridiron Oil.
Shepard, South Penn Oil.
Pittenger, South Penn Oil.
Baldwin, Forest Oil.
Noble, Forest Oil.
Irvine, C. E. Potter.
Burns, Arthur E. Yahn.
Baldwin, C. B. Kervin.
Gelfin, Simpson & Cooper.
Farr, G. S. VanVetchen & Son.
Sill, Hope Oil.
Garlock, Denwood Oil.
Hodge, South Penn Oil.
Fee, Evans & Wood.
Corwin, J. H. Gallagher.
Nesselson, Nesselson Brothers.
Nolan, C. Nolan.
Melvin, South Penn Oil (two wells).
Roggenbaum, J. Roggenbaum.
Lafferty, George & George.
Bingham, J. L. Yerdon.
Wright, Wright & Johnson.
Bingham, Andrus & MacDowell (two wells)
Rigs, 24; wells drilling, 63; total, 87

### MIDDLE FIELD
**Rigs**

Osgood, Rembold et al 6.
Lot 3767, F. J. Moser 25.

**Wells Drilling**

O'Hara, Pequignot & Co. 10.
Bingham, Rockey Grove Oil 11.
Lot 3664, South Penn Oil 38.
Mack, S. M. Mack.
Rogers, F. H. Trax.
Rigs, 2; wells drilling, 5; total, 7

### VENANGO-CLARION
**Rigs**

Hovis, Hovis, Surrena et al 26.
Zimmerman, Adam Zimmerman & Sons 6
O'Neill Bros., D. & H. O'Neill 2.
O'Neill Bros., Alum Rock Gas 1.
Amsler, G. C. Shaner et al 2.

**Wells Drilling**

Burkhart, Frank Masterson.
McCalmont, S. P. McCalmont Est. 44.
Sayers, Kelley heirs & Hoffman 9.
Morrison, S. P. McCalmont Est. 1.
Kaverline, Joe Kaverline 22.
Surrena, C. Surrena 6.
Knapp & Preston, Flack & Kurtz 6.
Henderson, S. Y. Ramage 49.
Hollister, J. C. Atwell 14.
Eakin, C. B. Reeves 17.
Grant, Kelly, Trax & Parker 4.
Mercer—
Drake, Bunny, Gilson et al 4.
Clarion—
Kahle heirs, A. D. Shorts et al 2.
Lauffer, Scott, Lewis et al 2.
Kenemuth, Alum Rock Gas 4.
Switzer, T. B. Swartzfager 1.
Beck, Kugler, Youkers et al 1.
Whitling Bros. Whitling Bros. Gas 2.
Wentling, V. Glass 2.
Knight, J. Campbell 6.
Keating & Breamer, Potts, Heeter & Edinger 2.
Knappenberger, J. W. Knappenberger 1.
Gilmore, Phillips & Lamberton.
Callahan, Agnew & Co. 1.
Rigs, 5; wells drillin. 24; total. 29.

### BUTLER-ARMSTRONG
**Rigs**

Helm heirs, Elliott & Neff 2.
Neel heirs, Dufford, Vensel et al 4.
Woods, Woods & Heeter 2.
Wylie heirs, Saxonburg Light & Heat 2.
Wylie, T. W. Phillips Gas & Oil 3.
Norris, American Natural Gas 1.
Kamerer, Mr. and Mrs. E. R Kamerer 1.
Shaner & Beilstein, Shaner & Co. 3.
Srawford, George Say 1.
Cumberland, Campbell & Sherwin 3.
Ray, Young, Graham et al 4.
Boggs heirs, R. C. & W. V. Binkerd.

**Wells Drilling**

Bortz, Texas Oil 1.
Ferguson heirs, Woods & Heeter 1.
Delaney, Delaney Bros. 1.
Hickey, Flick & Co. 4.
McCarron, Lang & Co. 2.
Cookson, S. Lobaugh et al 1.
Duncan, Duncan, Meeder & Co. 7.
Moore, E. Snow et al.
Goehring, J. A. Elliott 3.
Johns, I. N. Johns.
Glenn, Carl Hillard et al 6.
Campbell, Baird, Keck et al 4.
Rigs, 12; wells drilling, 12; total, 24.

### SOUTHWEST PENNSYLVANIA

### WASHINGTON COUNTY

Mansfield, Tague, Lutton & Co. 2 ....dry
Thompson, Brown & Conklin 1. .....dry
Quail Sisters, Benedum & Trees 1..... 10
Muner, Tague, Taurron & Co. 1 .....gas
Andrew, Mfgs. L. & H. Co. 1. .....gas
James Andrew, Carnegie Gas Co. 1 ...gas
Craft, N. G. Co. of W. Va. 1. .....gas

### ALLEGHENY COUNTY

Wallace, Baker & Edwards 3 ..... 3
Bauselme, Robinson & Co. 1 ..... 2
Martin, Martin & Co. 1 .....gas
Cole heirs, Walley & Co. 1 .....dry
Beople, Walters & Co. 1 .....gas
Hicks, Black Brothers & Co. 4 ..... 2
Sickles, Schuck & Co. 3 .....gas
Burk, West Farm O. & G. Co. 2 .....gas

### BEAVER COUNTY

Duapis, H. L. Suttler 1. ..... 1
Veon, Pittsburgh, Parties 3 .....gas

### GREENE COUNTY

Stephens, Philadelphia Co. 2 .....gas
Wade, Fox O. & G. Co. 1 .....gas
Lemley, Shannons Run O. & G. Co. 1 ..gas
Henderson, Carnegie Gas Co. 1 .....gas
McCracken, Orndoff & McCracken 1....gas
Renner, DunnMar O. & G. Co. 1..... 2
Webster, Carnegie Gas Co. 1 .....gas
Boyd, Mfgs. L. & H. Co. 1 .....gas
Webster, Mfgs. L. & H. Co. 1 .....dry

| | |
|---|---|
| Wells completed | 26 |
| Production | 20 |
| Dry | 4 |
| Gas | 16 |

### WSAHINGTON COUNTY
**Wells Drilling**

Gushert, Benedum & Trees 1.
Lutton, Tague, Lutton & Co. 4.
Thome, Robert Hayes & Co. 1.
Haslett, Mfgs. L. & H. Co. 1.

### ALLEGHENY COUNTY
**Rigs**

McKinney, M. L. Williams 2.
Miller, Robinson & Co. 2.
McCray, Harbison & Co. 1.

**Wells Drilling**

Woodside, So. P. O. Co. 5.
Handt, Ferguson & Co. 1.
Lutsunger, Lutsunger & Co. 1.
School lot, Brooker & Co. 1.
Hoffman, C. Scott & Co. 1.
Steele, Steele & Co. 1.
Swartz, West Farm O. & G. Co. 6

### GREENE COUNTY
**Rigs**

Howard, Peoples Gas Co. 1.
Fox, Martin O. & G. Co.
Nichols, Mfgs. L. & H. Co. 2.
Stewart, Carnegie Gas Co. 1.

**Wells Drilling**

South, Fred Garrison 1.
Jas. Fox, Peoples Gas Co. 1.
Henderson, Carnegie Gas Co. 2.
S. F. Lemley, Peoples Gas Co. 2.
Cassidy, Carnegie Gas Co. 1.
McClure, Randall Gas Co. 1.
Ross, Federated Gas Co. 1.
Kent, Peoples Gas Co. 1.
Davis, Carnegie Gas Co. 1.
Behm, Mfgs. L. & H. Co. 1.
Jones, N. G. Co. of W. Va. 1.
Gump, Phillips Drilling Co. 1.
Lewis, Carnegie Gas Co. 1.
Shoup, Carnegie Gas Co. 1.
McGlumphy, Carnegie Gas Co.'s No. 1
Smith, Mfgs. L. & H. Co. 3.
Wolfe heirs, Mfgs. L. & H. Co. 3.
McGrevey, Waynesburg Prod. Co. 2.
Rigs, 7; wells drilling, 29; total, 36.

### SOUTHEASTERN OHIO

### HOCKING COUNTY

Huggins, Carter Oil Co. 1 .....100

### LICKING COUNTY

Romine, Carter Oil Co. 3 ..... 20
Bowser, Whitehill & Zohniser 3 ..... 55
Cooperrider, Midland Oil Co. 2 ..... 20
Skinner, Carter Oil Co. 1 .....gas
Green, F. Marion Snyder 9 ..... 3
Cochran, Upham Gas Co. 1 .....dry
Spreckles, O. F. S. Co. 1 .....dry
Smith, Ralph Brothers, 7. ..... 2
Stevens, Moore & Adams 7 ..... 3
Stevens, Moore & Adams 8 ..... 2
Motherspaw, Saltgaber & Co. 7 ..... 6
Irwin, Spindler & Co. 2 ..... 5
Settles, Carter Oil Co. 2 ..... 15
Porter, E. H. Everett Co. 1 ..... 10
Tavenor, Wehrle Brothers 1 ..... 1

### HOLMES COUNTY

Jackson, Carter Oil Co. 1 .....gas
Bird, Central O. G. Co. 1 .....gas
Harford, Ohio Fuel Gas Co. 1 .....gas
Martin, Ohio Fuel Gas Co. 1 .....gas
Troyer, Ohio Central Gas Co. 1 .....gas
Bell, East Ohio Gas Co. 1 .....gas

### KNOX COUNTY

Blubaugh, Upham Gas Co. 1. .....gas

### FAIRFIELD COUNTY

Barnes, Elder, Griggs & Co. 1 ..... 10
Folk heirs, Brush Creek Oil Co. 2 ..... 25
Reed-Hyde, Shaw Oil Co. 1 ..... 10
Christ, Sturm & Co. 1 .....dry

### NOBLE COUNTY

Rollins, Way, Wickens & Co. 1 .....dry
Davis, Haynes & Co. 1 ..... 3
McWilliams, John Kemp & Co. 1 ..... 1
Williams, Williams & Clark 1 ..... 2
Estadt, Scultz & Co. 2 ..... 1
Hutchinson, E. C. Merry & Co. 2.....dry
Marsh, Marsh Oil Co. 1 ..... 5
Johnson, Leo Gerst & Co. 1 ..... 1
Johnson, Leo Gerst & Co. 2 ..... 2

### ATHENS COUNTY

Lowery, Carter Oil Co. 1 ..... 3
Sayler, Carter Oil Co. 1 .....dry

### MORGAN COUNTY

Male, Auburn Oil Co. 2 ..... 5
Sweitzer, Sun Oil Co. 6 ..... 30
Fry, Pure Oil Co. 4 ..... 20
Epply, Pure Oil Co. 6 ..... 25
Findley, Carter Oil Co. 2 .....dry

### MEIGS COUNTY

Iden, Hevis & Co. 1 ..... 6

### WASHINGTON COUNTY

Uppole, Goddard & Co. 2 ..... 3
Dishler heirs, O. S. Recker & Co. 1..... 1
Amos Herman Hill & Co. 1 .....gas
Scott, Erbs & Payne 3 ..... 5
Reynolds, Stephens & Co. 1 .....dry
Thebold, McIntyre & Co. 20 ..... 3
Morganstein, Schantz & Co. 2 .....dry
Wagner, L. Bay Co. 1 ..... 3
Wharff, George Trier & Co. 3 .....dry
Rose, Rose O. & G. Co. 1 ..... 4

### JEFFERSON COUNTY

Cox, W. E. Burns & Co. 3 ..... 5

### COLUMBIANA COUNTY

Stoffer, Coraopolis S. & T. Co. 14 ..... 2

| | |
|---|---|
| Wells completed | 56 |
| Production | 488 |
| Dry | 11 |
| Gas | 3 |

### MONROE COUNTY
**Wells Drilling**

Cline, Yeager, trustee 1.
Melone, Carter Oil Co. 2.
Watson, Carter Oil Co. 1.
Bates, Anderson & Co. 1.

### PERRY COUNTY
**Rigs**

Aker heirs, Carter Oil Co. 2.
Paxton, Holliday O. & G. Co. 3.

**Wells Drilling**

Trimmer, Ohio F. S. Co. 5.
Sunday Creek C. Co. Sunday Creek C. Co. 133
Sunday Creek C. Co., Denman & Son 45.
Green, Carter Oil Co. 1.
Burns Heirs, Denman & Co. 6.
St. Josephs L. S., Reagan & Co. 3.
Denman, Paxton Oil Co. 1.
Lanity, John Foutz 8.

### HOCKING COUNTY
**Rigs**

Johnston, Griffin Prod. Co. 6.
H. V. P. Co., Chartiers Oil Co. 194.
Tracey estate, Kachelmacher estate 16.

**Wells Drilling**

Stone, Gordon Oil Co. 12.
Geiger, Mid-West O. & G. Co. 1.
H. V. P. Co., Chartiers Oil Co. 193.
Tracey estate, Kachelmacher estate 15.
S. C. C. Co., S. C. C. Co. 122.
Jacobs, Jacobs Oil Co. 4.
France, Arkansas Fuel Oil Co. 2.

**LICKING COUNTY**
Rigs
Walcott heirs, E. H. Everett Co. 1.
Orr, Midland Oil Co. 2.
Bell, Carter Oil Co. 1.
McCullough, Carter Oil Co. 1.
Melick Brothers, Atha Oil Co. 7.
Bowlin, Mid-East Oil Co. 1.
Vanderbark, Carter Oil Co. 4.
Settles, Carter Oil Co. 3.
McCracken, Pure Oil Co. 2.
Wells Drilling
Summerville, Carter Oil Co. 3.
Derflinger, Whitehill & Co. 1.
Bowser, Midland Oil Co. 3.
Watts heirs, Carter Oil Co. 2.
Pyle, Ohio Gas Co. 1.
Orr, Empire O. & G. Co. 1.
Hughes, Rugg & Co. 6.
Stir, Edmonds & Co. 3.
McKinney, Jones & Reese 9, 10.
Green, M. Snyder, 9.
Franks, Detex Oil Co. 1.
Tish, Carter Oil Co. 1.
Vanderbark, Carter Oil Co. 3.
Taylor, Werhle Brothers 9.
Smith, Werhle Brothers 4.
Gorley, Werhle Brothers 1.
Weekley, A. H. Heisey & Co. 3.
W. A. Weekley, Planet Oil Co. 4.
Montgomery, E. H. Everett Co. 3.

**HOLMES COUNTY**
Rigs
Schoneuer, Ohio Oil Co. 1.
Sowash, East O. G. Co. 2.
Anderson, East O. G. Co. 2.
Smith, Central Ohio G. Co. 2.
Connor, Central Ohio G. Co. 1.
Parsons, Rocky River Dev. Co. 2.
Barnes, Ohio Fuel G. Co. 4.
Martin, Ohio Fuel G. Co. 1.
Uhl, East Ohio Gas Co. 1.
Carpenter, Pure Oil Co. 3.
Clark, Ohio Fuel G. Co. 1.
Wilson, Ohio Fuel G. Co. 1.
Wells Drilling
Herman, Carter Oil Co. 1.
Carpenter, A. L. Harbison & Co. 1.
Purdy, Pure Oil Co. 1.
Miller, Pure Oil Co. 2.
Bell, East Ohio Gas Co. 1.
Patterson, East Ohio Gas Co. 1.
Mackey, East Ohio Gas Co. 2.
Connor, East Ohio Gas Co. 5.
Close, East Ohio Gas Co. 1.
Bird, East Ohio Gas Co. 1.
Davenport, Central Ohio G. Co. 3.
Korns, Central Ohio Gas Co. 3.
Martin, Central Ohio Gas Co. 1.
Finney, Central Ohio G. Co. 1.
Pyers Rocky River Dev. Co. 1.
Parsons, Rocky River Dev. Co. 1.
Parsons, Rocky River Dev. Co. 1.
Uhl, Ohio Fuel Gas Co. 2.
Treyer, Central Ohio Gas Co. 2.
Patterson, Ark. Fuel Oil Co. 1.
Uhl, East Ohio Gas Co. 3.
Sterling, East Ohio Gas Co. 2.
Smith, East Ohio Gas Co. 1, 2.
Clark, Ohio Fuel G. Co. 1.
Evans, Local Parties 1.
J. S. Evans, Local Parties 1.

**KNOX COUNTY**
Rig
Sherman, Upham Gas Co. 1.

**FAIRFIELD COUNTY**
McCandlish, Carter Oil Co. 1.
Miller, Pure Oil Co. 4.
Dittoe, Planet Oil Co. 4.
Wells Drilling
Graffis heirs, Flafdale O. & N. G. Co. 15.
Focht, Peach O. & G. Co. 1.
Miller, Pure Oil Co. 3.
Smith, Pure Oil Co. 2.

**COSHOCTON COUNTY**
Rigs
Wolford, Spindler & Co. 4.
McKee, Spindler & Co. 4.
Myers, Pure Oil Co. 1.
Crawford, Pure Oil Co. 7.
Wells Drilling
Norris, Pure Oil Co. 3.
Gardner, Carter Oil Co. 1.

**MUSKINGUM COUNTY**
Rig
Ashcraft, Pure Oil Co. 3.
Well Drilling
Fawsett, Trinway O. & G. Co. 2.

**NOBLE COUNTY**
Rig
Heddleson, Hackett & Metcalf 1.
Wells Drilling
Walters, Wash. & Noble Co. Gas Co. 1.
Westcott, Stephens & Co. 1.
Blake, E. H. Crock & Co. 1.

**ATHENS COUNTY**
Wells Drilling
Lick Run C. & C. Co., E. L. Stephens 3.
Biddle, Carter Oil Co. 1.

**MORGAN COUNTY**
Rigs
Souders, Sun Oil Co. 4.
Detro, Carter Oil Co. 2.
Wells Drilling
Male, Auburn Oil Co. 3.
Sweytzer, Sun Oil Co. 7.
Souders, Sun Oil Co. 3.
Fisher, Pure Oil Co. 1.
Hudson, Carter Oil Co. 1.

**MEIGS COUNTY**
Wells Drilling
Cottrell, Brocalsia Chem. Co. 1.
Crew, D. F. S. Co. 2.
Spencer, Pure Oil Co. 3.

**WASHINGTON COUNTY**
Rigs
Dana, O. S. Reckard & Co. 7.
Devol, C. M. & C. Co. 6.
Thornily, V. Hammons 4.
Wells Drilling
Mendenhall, F. N. B. of M. 32.
Johnson, Ohio Glenn O. Co. 1.
Williams, Heldman & Co. 1.
Hill, Otto Becker & Co. 1.
Gerber, Banks & Co. 1.
Hopp-Murray Beeson & Athey 5.
Driscoll, J. T. Dillon 3.
Williams, Combine O. & G. Co. 2.

**JEFFERSON COUNTY**
Rig
Groves & Co., Boyer & Boyer 3.

**HARRISON COUNTY**
Well Drilling
Cavin, C. H. Palmer & Co. 1.

**CARROLL COUNTY**
Well Drilling
Blackledge, N. G. Co. of W. Va. 1.
Brandt, Mills O. & G. Co. 1.
Albaugh, Chas. Scott & Co. 1.

**COLUMBIANA COUNTY**
Well Drilling
Yaggi heirs, Kirk-Dunn Oil Co. 14.
Rigs, 43; wells drilling, 97; total, 140.

**WEST VIRGINIA**

**LEWIS COUNTY**
Wilson, Pittsburgh & W. Va. Gas Co. 1 gas
Haymond, West Fork O. & G. Co. 1...gas

**HARRISON COUNTY**
Lyons, Wolf Pen O. & G. Co. 2 .....dry
Lanhan, Sev. Tex. O. & G. Co. 1 .....gas
Bramer, Clks. H. & L. Co. 1 .....dry
Lowndes, H. T. Lowndes 1. .....gas
Young, Summerville Chem. O. Co. 1....gas
Lynch, Eastern Pet. Co. 1. .....gas
Lee hrs, Orlando West 1. .....gas

**MARION COUNTY**
Gump, So. P. O. Co. 2 ..... 20
Robey, Hope Gas Co. 1 .....gas
Cunningham, Owens B. & M. Co. 1 .....dry
Davis, Hope Gas Co. 2 .....gas
Connoway, Hope Gas Co. 1 .....gas
Fluharty, So. P. O. Co. 3 .....gas
Hays, Hope C. & R. Co. 6 .....gas

**MONONGALIA COUNTY**
Cowell, Carnegie Gas Co. 1 .....dry
Thomas, Mfgs. L. & H. Co. 5 ..... 20

**WETZEL AND TYLER COUNTIES**
Morgan, Mfgs. L. & H. Co. 4 ..... 10
Milliken hrs. J. B. Orndoff 1 .....gas
Hamilton, Carter Oil Co. 3 .....dry

**MARSHALL COUNTY**
Keller, Mfrs. L. & H. Co. 4 ..... 15
Burley hrs. Mfrs. L. & H. Co. 4 .....gas
Orum, Cole & Campbell 1 ..... 15
Schenk, Mfrs. L. & H. Co. 5 .....gas

**DODDRIDGE COUNTY**
Smith, C. W. McCall Oil Co. 2 ..... 15
Ash, Sutton Brothers 1. .....100

**RITCHIE COUNTY**
Maxwell hrs. Hope Gas Co. 1 .....gas
Snodgrass, Hope Gas Co. 1 .....gas
Wright, Louden & Co. 1 .....dry
Wass, Carnegie Gas Co. 1 .....gas
Mason, Hope Gas Co. 1 .....dry
Lewis, Hope Gas Co. 1 ..... 2
M. Lewis, Hope Gas Co. 2 ..... 2
Bell, W. A. Clark & Co. 1 .....dry
Williamson, J. F. Deem & Co. 4 .....dry
Zicafoose, Zicafoose, Brothers & Co. 1..gas
Mullen, John McGinnis & Co. 1 .....dry
McGinnis 800-A, Chalmers O. & G Co. 17. 3
Lowther, Penn Royal Oil Co. 2 .....35

**GILMER COUNTY**
Bennett, Hope Gas Co. 1 .....gas
Miller hrs. C. W. McCall & Co. 3 ..... 3
Means, Hope C. & R. Co. 1 .....gas

**BRAXTON COUNTY**
Lauder, Star Products Co. 1 .....gas

**PLEASANT COUNTY**
Wagner, Mono. Oil Co. 11 ..... 1
Parker, A. S. McCullough & Co. 1 ..... 1
Gale hrs. Samuel & Gale 9 ..... 3

**ROANE COUNTY**
Shaer hrs., Mayfield O. & G. Co. 1 .... 20

**CALHOUN COUNTY**
Beall, Hope C. & R. Co. 2 .....gas

**JACKSON COUNTY**
Skeen, Kentuck Oil Co. 1 .....dry

**LINCOLN COUNTY**
Peck, Foote O. & G. Co. 1 .....gas
Adkins, Cambridge Gas Co. 1 .....gas
Porter, Laurel Development Co. 3 .....gas
Sweetland, L. R. Sweetland 2 .....gas
Stowers, Carter O.l Co. 1 ..... 2
Pridemore-Sweetland, Foote Oil & Gas Co. 2 .....gas

**PUTNAM COUNTY**
Bays, Commercial Gas Co. 1 .....gas

**LOGAN COUNTY**
Dingless Run C. Co., Wacatock Oil & Gas Co. 10 ..... 5

**CABELL COUNTY**
McCullough, Aetna Oil & Gas Co. 1 ...gas
Walton, Walton Oil & Gas Co. 2 .....gas
Adkins, Monikel Gas Co. 1 .....gas

**BOONE COUNTY**
Bedford, Owens B. & M. Co. 6 .....gas
Boone County Poor Farm, Owens B. & M. Co. 2 .....gas

**KANAWHA COUNTY**
Ashley, U. F. G. Co. 14 .....gas
Canterbury, U. F. G. Co. 2.....gas

| | |
|---|---|
| Wells completed | 65 |
| Production | 262 |
| Dry | 10 |
| Gas | 35 |

**LEWIS COUNTY**
Rigs
Yoke, Hope Gas Co. 1
Rhodes, Hope Gas Co. 1.
Watsch, C. W. McCall Oil Co. 1.
Horner, R. Horner 1.
Daugherty, T. M. Cain & Co. 1.
Wells Drilling
Edmonston, Hope Gas Co. 1.
Kemper, Hope Gas Co. 1
Burnside heirs, So. P. O. Co. 1.
Hughes, Reserve Gas Co. 1.
Wilcox, Carter Oil Co. 1.

**HARRISON COUNTY**
Wells Drilling
Benedum, Salem Oil Co. 2.
Goodwin, So. P. O. Co. 10.
Cookman, Lone Star Oil Co. 1.
Smith Brothers, Reserve Gas Co. 1.

**PRESTON COUNTY**
Well Drilling
Gordon, Hope Gas Co. 1.

**MARION COUNTY**
Wells Drilling
Fleming, Davenport Oil & Gas Co. 1.
Ice, Owens, B. & M. Co. 2.
Laugh, Magnolia West Penn. Co. 2.
Fleming, heirs, Morgantown Oil & Gas Co. 1.
Beaty heirs, Buffalo Oil Co. 1.
Fluharty, Carnegie Gas Co. 1.

**MONONGALIA COUNTY**
Wells Drilling
Price, Manufacturers L. & H. Co. 1.
Wise-Tennant, O. C. Bradley 4.
Tennant, So. P. O. Co. 1.
M. Tennant, So. P. O. Co. 1.
Tennant, DunnMar Oil & Gas Co. 5.
Varner heirs, DunMar Oil & Gas Co. 17.
L. Tennant, So. P. O. Co. 3.
T. Tennant, Clay District Oil Co. 1.
L. Tennant, Hope C. & R. Co. 1.
Knutte, Cummings & Thomas 1.
Lemley, So. P. O. Co. 6.

**WETZEL AND TYLER COUNTIES**
Rigs
McGinnis, H. L. Lambert 8.
Carney, Hope C. & R. Co. 3.
Wells Drilling
Morgan, Rawe Brothers 3.
Ingram, Hope C. & R. Co. 1.
Pyles, Hope C. & R. Co. 1.
Lemaster, Hope C. & R. Co. 1.
Peterson, So. P. O. Co. 36.
Hixenbaugh heirs, Manufacturers L. & H. Co. 1.
Miller, Hope C. & R. Co. 1.
Cain, Hope C. & R. Co. 3.
Mace, Carnegie Gas Co. 1

**MARSHALL COUNTY**
Rig
Antill, Johns Gas Co. 5.
Wells Drilling
Marshall County Bank, Manufacturers L. & H. Co. 11.
McCluskey heirs, Waynesburg Gas Co. 1.
Chaney, Manufacturers L. & H. Co. 1.
Ramsey, Myers Gas Co. 1.

**DODDRIDGE COUNTY**
Rigs
Merritt, Hope C. & R. Co. 2.
Eddy, McIntyre Brothers & Co. 1.
Britton, Philadelphia Oil Co. 2.
Burbridge, W. D. Gribble & Co. 2.
Kelly, Trainer & Travis 2.
Douglass, Trainer and Travis 2.
Roberts, Keystone Oil Co. 4.
Hudson heirs, Continental O. & G. Co 3.
Smith, Carter Oil Co. 3.
S. E. Smith, Clifton O. & G. Co. 4.
Wells Drilling
Bates, Bates Oil Co. 1.
McCoy, Hope Gas Co. 1.
Weekley, Carter Oil Co. 1.
Allender, Parkersburg O. & G. Co. 1.
Ehret, Hope Gas Co. 2.
Smith, Hope C. & R. Co. 2.
Hufford heirs, Carter Oil Co. 1.
Williams, Nay and Williams 1.
Perrine, Murphy Oil Co. 2.
Stout, Carter Oil Co. 54.
Kelly heirs, Raccoon O. & G. Co. 4.
Smith, Carter Oil Co. 1.
Haymond heirs, Barker & Smith 1.

**RITCHIE COUNTY**
Rigs
Goff, Wright Oil Co. 1.
W. Va. Tract, Whitewood Oil Co. 18.
W. Va. Ttract, D. C. Reese & Co. 30.
W. Va. Tract, Burke Brothers, 21.
Mason, McDonough & Co. 1.
Pope, Pope Brothers 2.
Caplin, Leeson & Zinn 1.
Shaw-Garrison, J. B. Neyzer 1.
Deerman, M. A. Deerman & Co. 1.
Scott, Deem & Co. 1.
Jackson, Penn Royal Oil Co. 5.
Ridgeway, Continental O. & G. Co. 2.
Porter, H. L. Lambert 1.
Lambert, H. L. Lambert 1.
Lowther, Penn Royal Oil Co. 3.
Wells Drilling
Doff, Hope Gas Co. 1.
Douglass, Hope Gas Co. 1.
Flesher, Pittsburgh & NE. Va. Gas Co. 1.
Howell, Moore & Co. 1.
Hector, Rector & Brother 2.
Jones, Coss O. & G. Co. 3.
Mount, Martin Burke & Son 102.
Ross Estate, Aetna O. & G. Co. 11.
Phillips, Edgar Lynch 1.
Reymer, Hope Gas Co. 1.
Westfall, Hope Gas Co. 1.
Stanley, Hope C. & R. Co. 1.
Conoway-Patton, T. A. & E. P. Mellon 2.
Scott, L. Rinehart 1.

**GILMER COUNTY**
Rigs
Goff, So. P. O. Co. 8.
Hardman, So. P. O. Co. 7, 6.
Ellis, So. P. O. Co. 3.
Bush-Holt, Hope Gas Co. 2.
Richards, Chemical O. & G. Co. 1.
Gill, Hope C. & R. Co. 2.
Tankenship heirs, Pine O. & G. Co. 1.
Wells Drilling
Bennett, Hope Gas Co. 4.
Bell, Hope Gas Co. 1.
Frederick, Hope C. & R. Co. 1.

**BRAXTON COUNTY**
Wells Drilling
Gerwig, Ohio Fuel Gas Co. 1.

**WIRT COUNTY**
Wells Drilling
Daubenspeck, A. F. Daubenspeck 3.
Vanvener, W. C. Patterson 11.

**WOOD COUNTY**
Wells Drilling
Stone, W. L. Stephens Oil Co. 3.
Munchmeyer, G. W. Stout & Co. 2.

**PLEASANTS COUNTY**
Rigs
Newlan, White & Casper 1.
Lamp, Neeley Oil Co. 5.
Wells Drilling
Marsh, Philadelphia Oil Co. 6.

**ROANE COUNTY**
Wells Drilling
Brown, Heck Oil Co. 4.
Meadows, W. P. Heeter 1.
Bartlett, Carter Oil Co. 1.
Burroughs, Heck Oil Co. 1.
Sheppard, Heck Oil Co. 3.
Young, J. Richardson & Co. 1.

**CALHOUN COUNTY**
Rig
Crowley, M. F. Crowley 1.
Well Drilling
Cooper, Thomas Crowley & Co. 2.

**JACKSON COUNTY**
Well Drilling
McCoy, Henderson Oil Co. 1.

**CLAY COUNTY**
Rig
King heirs, White Sand Pet. Co. 3.
Well Drilling
Phillips, Virginia Gasoline Co. 1.

**LINCOLN COUNTY**
Rigs
Adkins, Orlando O. & G. Co. 3.
Viola Adkins, Superior Gas Co. 1.
Avaril Adkins, Cambridge Gas Co. 2.
Browning, Carter Oil Co. 1.
Pridemore-Sweetland, Foote O. & G. Co. 1.
Wells Drilling
Walls, Columbia Gas Co. 1.
Scraggs, Roy & McComas 1.
Madden, Moore Rock O. & G. Co. 3.
Browning, Laurel Dev. Co. 2
Thacker, C. C. Wolf, 2.
Banks, Roy Gas Co. 1.
Cline, Columbia G. & E. Co. 1.
Stowers, Grant Gas Co. 1.
Osborne, Star O. & G. Co. 1.
Myda, Cambridge Gas Co. 1.

**CABELL COUNTY**
Wells Drilling
Nixon, Aetna O. & G. Co. 1.
Harden, O. F. O. Co. 1.
Templeton, C. O. Nixon & Co. 1.
Harshbarger, Zogg O. & G. Co. 2.
Swann, Star Pet. Co. 1.

**LOGAN COUNTY**
Rigs
Yawkey-Freeman, So. P. O. Co. 8, 10.
Dingess Run C. Co. Wacatock O. & G. Co. 7.
Wells Drilling
Yawkey-Freeman, So. P. O. Co. 5.
Guyan Mercantile Co. So. P. O. Co. 1.
Guyan Mercantile Co. Wacatock O. & G. Co. 1.
Chambers, Wacatock O. & G. Co. 1.

**BOONE COUNTY**
Rigs
Cold River M. Co. Owens B. & M. Co. 4.
Bedford, Owens B. & M. Co. 7.
Yawkey-Freeman So. P. O. Co. 11.
Wells Drilling 8
Fuel Land Co. Owens B. & M. Co. 1.
Pryor-Allen, Owens B. & M. Co. 10.
Cassingham, Owens B. & M. Co. 6.
Smoot, Owens B. & M. Co. 1.
Williams Coal Co., Pure Oil Co. 202.
L. R. & P. Tract 2, Pure Oil Co. 15.

**KNAWHA COUNTY**
Rigs
Deerman-Brown, U. F. G. Co. 1.
Vickers, Columbia Carbon Co. 3.
Boyd, U. F. G. Co. 1.
Imperial C. Co. Allegheny Oil Co. 2.
Roane Land Co., Allegheny Oil Co. 2.
Wells Drilling
Rollins, U. F. G. Co. 1.
Hulings-Todd, U. F. G. Co. 1.
Jarrett, U. F. G. Co. 1.
Halstead, U. F. G. Co. 1.
Patterson, U. F. G. Co. 1.
Cobb, U. F. G. Co. 1.
Townsend-Young, U. F. G. Co. 1.
Vickers, Columbia Carbon Co. 4.
Quarrier, Owens B. & M. Co. 5.
Bradford, U. F. G. Co. 1, 2.
Thompkins, U. F. G. Co. 1.
Cassingham-Skinner, So. P. O. Co. 2.
Black Band Fuel Co., So. P. O. Co. 4.
Rigs, 61; wells drilling, 124; total, 185.

## LIMA FIELD

**Summary of Field Operations**

| | Comp. | Prod. | Dry | Gas | Rigs | Drg. | Ttl. |
|---|---|---|---|---|---|---|---|
| Wood | 5 | 41 | 2 | 0 | 0 | 7 | 7 |
| Hancock | 4 | 75 | 1 | 2 | 4 | 6 | 6 |
| Allen | 2 | 38 | 0 | 0 | 0 | 2 | 2 |
| Auglaize | 1 | 10 | 0 | 0 | 0 | 4 | 4 |
| Sandusky | 2 | 10 | 1 | 0 | 0 | 3 | 3 |
| Mercer | 1 | 4 | 0 | 0 | 0 | 4 | 4 |
| Van Wert | 1 | 5 | 0 | 0 | 0 | 4 | 4 |
| Seneca | 1 | 0 | 1 | 0 | 0 | 2 | 2 |
| Lucas | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Ottawa | 3 | 11 | 1 | 0 | 0 | 1 | 1 |
| Darke | 1 | 3 | 0 | 0 | 0 | 1 | 1 |
| Shelby | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| Hardin | 3 | 85 | 1 | 0 | 0 | 1 | 1 |
| Paulding | 2 | 14 | 0 | 0 | 3 | 1 | 4 |
| Defiance | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Crawford | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Michigan | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| Total Feb. | 26 | 296 | 7 | 0 | 5 | 40 | 45 |
| Total Jan. | 27 | 257 | 4 | 2 | 5 | 48 | 53 |
| Difference | 1 | 39 | 3 | 2 | 0 | 8 | 8 |

**WELLS COMPLETED**

**WOOD COUNTY**
Bloom—H. Hatfield, Maxwell & Harkness 32 ..... 30
Liberty—D. W. Levers, Hulse & Kunsts 3 ..... 1
Bordner heirs, Ohio Oil 1 ..... dry
Perrysburg—Deloy Speck, Gage & Eurnell 1 ..... 10
Portage—Mattie Rouse, Mattie S. Rouse & Co. 22 ..... dry

| | |
|---|---|
| Wells completed | 5 |
| Production | 41 |
| Dry | 2 |

**HANCOCK COUNTY**
Pleasants—J. E. Heers, Bath Township Oil 4 ..... 45
Van Buren—C. Basse, Jenera Oil & Gas 1 ..... dry
Eagle—Lem Aurand, Porter & Hovis 15 25
Eli Gorby, Dave King, Jr., & Co. 14.. 5

| | |
|---|---|
| Wells completed | 4 |
| Production | 75 |
| Dry | 1 |

**ALLEN COUNTY**
Spencer—Wm. Severs, W. L. Parmenter 1 ..... 30
T. Youngpeter, W. L. Parmenter 5... 8

| | |
|---|---|
| Wells completed | 2 |
| Production | 38 |

**AUGLAIZE COUNTY**
Mounton — G. R. Julian, Fowler Bros. Pet. 4 ..... 10

**SANDUSKY COUNTY**
Jackson—Rineboldt, B. J. Rineboldt 4.. 10
Woodville—F. Neihausmyer, Jake Smith 1 ..... dry
Scott—W. H. Myers, Home Banking 6.. abd
Ben J. Evenbeck, Home Banking 4.. abd
Sandusky—Wm. Hensel, Ohio Oil 10 .. abd

| | |
|---|---|
| Wells completed | 3 |
| Production | 10 |
| Dry | 4 |
| Abandoned | 3 |

**MERCER COUNTY**
Hopewell—Mary E. Price, June Oil 2... 4

**VAN WERT COUNTY**
Jennings—W. C. Shiley, Stanley Oil 1.. 5

**SENECA COUNTY**
Eden—S. A. Boroff, The Sun Co. 8 ... dry
**OTTAWA COUNTY**
Harris—Harmon Minke, The Zorn-Hornung Oil 1 ... dry
Ross Reynolds, Reynolds Oil 5 ... 2
E. Bushman, River Oil 5 ... 9

Wells completed ... 3
Production ... 11
Dry ... 1

**DARKE COUNTY**
Mississinewa—O. L. Black, F. Hunting Clark 1 ... 3
**HARDIN COUNTY**
McDonel—Erwin Hites, Roundhead Oil & Gas 5 ... 80
John Ward, Allie Moore Oil 1 ... 5
Roundhead—Manuel Hoover, Ohio Oil 1 dry

Wells completed ... 3
Production ... 85
Dry ... 1

**PAULDING COUNTY**
Harrison — C. C. Springer, John T. Shanks 1 ... 4
Benton—Otto Lentz & Co., D. M. Lippe 1 ... 10

Wells completed ... 2
Production ... 14

**WOOD COUNTY**
**Wells Drilling**
Freedom—Byron Brookover, J. Ed. Matzinger 9.
Plain—Harley Avery, Schmidt-Hamman & Huston 2.
Bloom—Browning, Clark A. Browning 20. N. W. Ohio Nat. Gas, Ohio Oil 49. F. B. Loose, Western Ohio Oil 3.
Perrysburg—S. Lahy, W. F. Johnson 7. Alex Bears, Lew W. Johnson 5.
Wells drilling, 7.
**HANCOCK COUNTY**
**Rigs**
Eagle—J. W. McClelland, S. Porter & Co. 2, 3.
**Wells Drilling**
Pleasants—J. E. Heers, Bath Township Oil 5.
Cass—Jas. E. Hudson No. 2, Ohio Oil 19.
Eagle—Alice Stauffer, Star & Clark 2.
Biglick—D. Chambers, R. Allen 1.
Rigs, 2; wells drilling, 4; total, 6.
**ALLEN COUNTY**
**Wells Drilling**
Amanda—Bailey heirs, W. W. Rocks 1.
Spencer—Wm. Severs, W. L. Parmenter 2.
Wells drilling, 2.
**AUGLAIZE COUNTY**
**Wells Drilling**
Moulton—Mary Tester, Cliff Blair & Co. 3.
Douchouquet—Fred Presser, Fowler Bros. Pet. 2.
Salem—W. E. Miller, Drake Oil 1.
Logan—Chas. McPherson, E. C. Loeber 1.
Wells drilling, 4.
**SANDUSKY COUNTY**
**Wells Drilling**
Jackson—Rineboldt, B. J. Rineboldt 5.
Madison—Lewis Donnells, Lewis Donnells & Son 1.
Wells drilling, 2.
**MERCER COUNTY**
**Wells Drilling**
Gibson—L. Rummell, Delta Oil 2.
H. Leckner, Weibel & McPherson 3.
Butler—John Dues, R. E. Young & Co. 1.
Washington—Florence heirs, Callahan & Mayhue 2.
Wells drilling, 4.
**VAN WERT COUNTY**
**Wells Drilling**
Ridge—J. E. Moore, Calvin Neely 2.
Willshire—A. J. Cully, J. H. Harmon 1.
Harrison—S. E. Gorman, Bolyard, Barnett & Co. 2.
Pleasants—M. H. Huffman, American Engineering 2.
Wells drilling, 4.
**SENECA COUNTY**
**Wells Drilling**
Jackson—Mary A. Miller, G. W. Michaels 5.
Clinton—Katherine Akers, Arthur Geyer & Co. 1.
Wells drilling, 2.
**LUCAS COUNTY**
**Wells Drilling**
Monclova—Wm. Black, Swan Creek Oil & Gas 2.
**OTTAWA COUNTY**
**Wells Drilling**
Harris—A. Barkow, The Zorn-Hornung Oil 1.
**DARKE COUNTY**
**Wells Drilling**
Wayne—Marguret Paulis, Lee A. Watson 2.
**SHELBY COUNTY**
**Wells Drilling**
Cynthian—T. B. Miller, Slagel & Johnson 1.
Laramie—H. Pauls, O. J. McGuigan & Co. 1.
Wells drilling, 2.
**HARDIN COUNTY**
**Wells Drilling**
McDonel—Erwin Hites, Roundhead Oil & Gas 6.
**PAULDING COUNTY**
**Rigs**
Harrison—A. W. Miller, Aetna Drilling 1. Chas. Seitler, Payne Parties 1.
Benton—John D. Lamb, W. J. Wharton & Co. 1.
**Well Drilling**
Brown—W. H. Patterson, Roger L. Dill & Co. 2.
Rigs, 3; well drilling, 1; total, 4.
**DEFIANCE COUNTY**
**Well Drilling**
Adams—Adams Township Gas & Oil 1.
**CRAWFORD COUNTY**
**Well Drilling**
Galion—Town lot, Weed-Hamilton Oil 1.
**MICHIGAN**
**MONROE COUNTY**
**Well Drilling**
Dundee—Frank Roe, Jackron County Oil & Gas 1.
**JACKSON COUNTY**
**Well Drilling**
Napoleon—Silvers, Jackson County Oil & Gas 1.

## CENTRAL OHIO

**Summary of Field Operations**

| | Comp. | Prod. | Dry | Gas | Rigs | Drg. | Ttl. |
|---|---|---|---|---|---|---|---|
| Licking | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Ashland | 0 | 0 | 1 | 5 | 5 | 4 | 9 |
| Medina | 2 | 0 | 2 | 0 | 3 | 4 | 7 |
| Lorain | 4 | 0 | 2 | 2 | 2 | 4 | 6 |
| Wayne | 9 | 5 | 2 | 6 | 3 | 8 | 11 |
| Richland | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Vinton | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Coshocton | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Holmes | 9 | 0 | 2 | 7 | 11 | 24 | 35 |
| Jackson | 0 | 0 | 0 | 0 | 4 | 1 | 5 |
| Athens | 7 | 0 | 0 | 7 | 7 | 5 | 12 |
| Meigs | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Summitt | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Cuyahoga | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Lawrence | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Huron | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Total Feb. | 39 | 5 | 9 | 29 | 37 | 56 | 93 |
| Total Jan. | 27 | 29 | 5 | 19 | 36 | 74 | 109 |
| Difference | 12 | 24 | 4 | 10 | 1 | 16 | 16 |

**WELLS COMPLETED**
**ASHLAND COUNTY**
Hanover—H. Brookman, East Ohio Gas 1 ... gas
Mohican—G. W. Black, Logan Gas 2 ... gas
Orange—J. J. Brown 7, Logan Gas 1 ... gas
J. J. Brown 7, Logan Gas 2 ... dry
A. J. McClelland, Ringler & Co. 1 ... gas
Greene—P. C. Cowan, Logan Gas 1 ... gas

Wells completed ... 6
Dry ... 1
Gas ... 5

**MEDINA COUNTY**
Harrisville — Malissa Steele, East Ohio Gas 1 ... dry
Litchfield—Thos. Haurey, Logan Gas 1 dry

Wells completed ... 2
Dry ... 2

**LORAIN COUNTY**
Grafton—George Mole, Ohio Fuel Gas 1 dry
Columbia—C. F. Rudes, Ohio Fuel Gas 1 gas
J. Martin, Logan Gas 1 ... gas
Sheffield—W. A. Day, A. J. O'Donnell 1 dry

Wells completed ... 4
Dry ... 2
Gas ... 2

**WAYNE COUNTY**
Wooster—W. M. Orr, Ohio Oil 2 ... gas
Milton—C. Ziegler, East Ohio Gas 1 ... dry
E. Steiner, Logan Gas 1 ... 5
Congress — Mary N. Shilling, Hulse & Kunditz 2 ... gas
J. W. Sheppard, Harmon & Co. 1 ... dry
Cannan—E. J. Betts, Ohio Fuel Gas 2. gas
R. C. Cockrill, Burbank Gas 2 ... gas
J. Siemons, Daugherty Bros. 3 ... gas
H. Rock, William Denny & Co. 1 ... gas

Wells completed ... 9
Production ... 5
Dry ... 2
Gas ... 6

**COSHOCTON COUNTY**
Newcastle — Cassingham-Herbrig, Bell Bros. & Co. 2, 3 ... gas

Wells completed ... 2
Gas ... 2

**HOLMES COUNTY**
Monroe—Alma Martin, Ohio Fuel Gas 1 gas
L. W. Harford, Ohio Fuel Gas 1 ... dry
M. G. Bird, East Ohio Gas 2 ... dry
Albert Mackey, East Ohio Gas 2 ... gas
W. C. Bird, Empire Gas & Fuel 1 ... gas
Washington—W. S. Fulmer, Logan Gas 1 ... gas
Hardy—Harvey Bell, East Ohio Gas 1 .. gas
S. S. Troyer, Empire Gas & Fuel Co. gas
Kilbuck—J. S. Jackson, Carter Oil 1 ... gas

Wells completed ... 9
Dry ... 2
Gas ... 7

**ATHENS COUNTY**
Carthage — Thomas Bond, Ohio Fuel Supply 3 ... gas
Watkins, McBride & Co. 1 ... gas
H. E. Allen, Sweeney & Snodgrass 2 .. gas
Kate Evans, Waldron & Co. 2 ... gas
Troy—Fritz Ahrendt, McBride & Co. 3. gas
Rome—W. B. Rice, Rice Oil & Gas 7 .. gas
Davis heirs, H. W. Leeper & Co. 1 ... gas

Wells completed ... 7
Gas ... 7

**LICKING COUNTY**
**Rigs**
Eden—Maggie Oatman, Wehrle Co. 1.
**ASHLAND COUNTY**
**Rigs**
Hanover—Howard Brookover, Logan Gas 2.
J. W. Sellers, Logan Gas 1.
Orange—J. J. Brown 5, Logan Gas 1.
J. R. McConnell, Logan Gas 1.
Greene—Martha Bowen, Logan Gas 2.
**Wells Drilling**
Hanover—Casper Paul, Ohio Fuel Gas 1.
C. D. Maxwell, Ohio Fuel Gas 1.
Rhoda Black, Ohio Fuel Gas 1.
Greene—C. Casner, Ohio Fuel Gas 1.
Rigs, 5; wells drilling, 4; total, 9.
**MEDINA COUNTY**
**Rigs**
Harrisville—J. S. Wisler, Logan Gas 1.
F. E. Richardson, East Ohio Gas 1.
Lafayette—Hipolite Karas, Ohio Fuel Gas 1.
**Wells Drilling**
Montville—J. K. Nold, Ohio Fuel Gas 1.
York—Ada G. Swartz, Ohio Fuel Gas 1.
Brunswick — Gabriel Kovach & Co., Ohio
Westfield—Mack O. Sterns, Ford Brookhart & Co. 1.
Rigs, 3; wells drilling, 4; total, 7.
**LORAIN COUNTY**
**Rigs**
Columbia—G. & J. Harold, East Ohio Gas 2.
J. E. Greenwalt, East Ohio Gas 1.
**Wells Drilling**
Grafton—Fred Klinech, Logan Gas 2.
Columbia—Thos. Armitage, Empire Gas & Fuel 1.
L. Ring, Wiser Oil 1.
F. C. Akens, Daugherty Bros. 1.
Rigs, 2; wells drilling, 4; total, 6.
**WAYNE COUNTY**
**Rigs**
Milton—C. W. & L. B. Frick, East Ohio Gas 1.
Cannan—W. Shoemaker, Empire Gas & Fuel 1.
W. S. Shoemaker, Empire Gas & Fuel 1.
**Wells Drilling**
Wooster—James M. Correll, Ohio Oil 3.
Milton—C. Krause, Charles Daugherty 1.
Cannan—J. Leamon, Empire Gas & Fuel 1, 2.
C. & E. Sells, East Ohio Gas 2.
H. H. Armstrong, Brinkerhoff & Co. 4.
S. L. Whorsetter, Ohio Fuel Gas 2.
Jacob Sell, Logan Gas 3.
Rigs, 3; wells drilling, 8; total, 11.
**RICHLAND COUNTY**
**Wells Drilling**
Franklin—J. Lantz, Coyle & Matthews 2.
**VINTON COUNTY**
**Wells Drilling**
Clinton—E. C. Wortman, Ohio Fuel Gas 5.
**HOLMES COUNTY**
**Rigs**
Monroe—Chas. Barnes, Ohio Fuel Gas 4.
B. F. & L. Uhl, Ohio Fuel Gas 3.
McCullough, East Ohio Gas 1.
M. G. Bird, East Ohio Gas 3.
C. M. Shanks, East Ohio Gas 4.
W. & L. Armstrong, Klise-Eckstein-McCann 1.
W. R. Parson, Norwood Oil 2.
Prairie—L. A. Sowash, East Ohio Gas 2.
David Anderson, East Ohio Gas 1.
Richland—W. N. Manchester, East Ohio Gas 1.
Hardy—W. H. Uhl, East Ohio Gas 3.
**Wells Drilling**
Monroe—B. P. & L. Uhl, Ohio Fuel Gas 2.
Edwin M. Martin, Ohio Fuel Gas 1.
F. C. Close, East Ohio Gas 1.
Thos. P. Conner, East Ohio Gas 5.
B. C. Bird, East Ohio Gas 1.
W. R. Parson, Norwood Oil 1.
David Pyers, Norwood Oil 1.
U. S. Davenport, Empire Gas & Fuel 3.
Oscar Korns, Empire Gas & Fuel 3.
Byron Martin, Empire Gas & Fuel 1.
T. T. Finney, Empire Gas & Fuel 2.
Elmer E. Connor, Empire Gas & Fuel 1.
Prairie—Homer A. Bell, East Ohio Gas 1.
W. H. Miller, Pure Oil 2.
Richland — John N. Patterson, East Ohio Gas 1.
Hardy—J. Clark Smith, East Ohio Gas 1. 2.
Jacob Uhl, East Ohio Gas 3, 4.
S. H. Sterling, East Ohio Gas 1, 2.
S. S. Troyer, Empire Gas & Fuel 2.
Kilbuck—A. Purdy, The Pure Oil 2.
Eph. Carpenter, A. L. Harbison & Co. 6.
Rigs, 11; wells drilling, 24; total, 35.
**JACKSON COUNTY**
**Rigs**
Coal—R. B. Rice, Ohio Fuel Supply 1.
Franklin—George W. Westlake, Ohio Fuel Supply 1.
Washington—S. H. Oghier, Ohio Fuel Gas 1.
Mary Shilling, Ohio Fuel Gas 1.
**Wells Drilling**
Coal—C. W. Haslett, Ohio Fuel Supply 1.
Rigs, 4; wells drilling, 1; total, 5.
**ATHENS COUNTY**
**Rigs**
Carthage—Oscar Clark, Ohio Fuel Gas 4.
Dana T. Burns, Ohio Fuel Gas 2.
Troy—C. G. Ford, Ohio Fuel Supply 1.
Nettie Richardson, Ohio Fuel Supply 1.
Rome—P. D. Potter, Ohio Fuel Supply 1.
Frank Crippin, Ohio Fuel Supply 1.
Lick—Eliza Cherrington, Ohio Fuel Supply 1.
**Wells Drilling**
Carthage—J. J. Gaston, Wm. Hawkins & Co. 6.
J. McKinley, McBride & Co. 2.
Rome—G. S. Parker, Stephens & Lowman 4.
Lodi—J. B. Crawford, Russell, Beal & Vandergrift 2.
York—Stephens Arnot, Stevens & Co. 4.
Rigs, 7; wells drilling, 5; total, 12.
**MEIGS COUNTY**
**Wells Drilling**
Sutton—Robert Crow No. 2, Ohio Fuel Supply 1.
**SUMMITT COUNTY**
**Wells Drilling**
Richfield—E. J. Cornell, East Ohio Gas 1.
**CUYAHOGA COUNTY**
**Wells Drilling**
Strongville—Gus Stelter, East Ohio Gas 2.
**LAWRENCE COUNTY**
**Wells Drilling**
Aid—George Carlyle, Ohio Fuel Supply 1.
**HURON COUNTY**
**Rigs**
New London — Henry H. Thudium, Logan Gas 1.

## ILLINOIS FIELD

**Summary of Field Operations**

| | Comp. | Prod. | Dry | Rigs | Drg. | Ttl. |
|---|---|---|---|---|---|---|
| Clark | 3 | 55 | 1 | 0 | 5 | 5 |
| Crawford | 0 | 0 | 0 | 0 | 4 | 4 |
| Lawrence | 0 | 0 | 0 | 0 | 2 | 2 |
| Wabash | 5 | 85 | 3 | 1 | 1 | 2 |
| Douglas | 0 | 0 | 0 | 0 | 1 | 1 |
| Union | 0 | 0 | 0 | 0 | 1 | 1 |
| Jasper | 0 | 0 | 0 | 0 | 1 | 1 |
| Coles | 0 | 0 | 0 | 0 | 1 | 1 |
| Fayette | 0 | 0 | 0 | 1 | 0 | 1 |
| Total Feb. | 8 | 140 | 4 | 2 | 19 | 21 |
| Total Jan. | 14 | 278 | 5 | 1 | 17 | 18 |
| Difference | 6 | 138 | 1 | 1 | 2 | 3 |

**Wells Completed**
**CLARK COUNTY**
Casey — Wm. Reisinger, Gillette Oil Corp. 3 ... 25
J. J. Ashley, H. A. Wertz 1 ... dry
Martinsville—S. N. Brosman, Ohio Oil 16 30

Wells completed ... 3
Production ... 55
Dry ... 1

**CLINTON COUNTY**
Wade—L. Deter No. 3, Ohio Oil 5 ... abd
**WABASH COUNTY**
Wabash—Holseon-Dorney, Max Oil 2 ... 45
H. A. Price, Wirebaugh & Ballard 1 .. 40
H. W. Winter, J. H. Whiteside & Co. 2 ... dry
John Keyser, Peck & Hughes 1 ... dry
Friendsville—Emily F. Craig, Gray & Co. 1 ... dry

Wells completed ... 5
Production ... 85
Dry ... 3

**WASHINGTON COUNTY**
Irvington — Wm. Brewer, Schunk Pet. Corp. 2, 3 ... abd
**CLARK COUNTY**
**Wells Drilling**
Casey—C. W. Slater, Gillette Oil Corp. 2, 3.
Wheeler Baker, Arkansas Fuel Oil 3.
Martinsville—Harriett Slater, Titus Oil 2.
Nettie Baker, W. C. McBride, Inc., 5.
Parker—Hattie Briscoe, Shrider & Co. 1.
A. L. Wise, Luse & Strattton 1.
Johnson—Chas. Snearley, Squires & Co. 12.
Wells drilling, 8.
**CRAWFORD COUNTY**
**Wells Drilling**
Oblong—Edward Henry, Dinsmore Oil 3.
Martin—D. C. Brubaker, W. W. Spiane 9.
W. L. Hughes, Ohio Oil 19.
Robinson—Johnson heirs, Homer Baker & Co. 1.
Wells drilling, 4.
**LAWRENCE COUNTY**
**Wells Drilling**
Lawrence—G. C. Dunlap, Samuels, Duffield & Co. 10.
Wm. Tilbert, A. B. Bement 1.
Wells drilling, 2.
**WABASH COUNTY**
**Rigs**
Wabash—W. F. Curter, Joe Young & Co. 2.
**Wells Drilling**
Wabash—A. R. Biehl, Coon Creek Oil 5.
Rigs, 1; wells drilling, 1; total, 2.
**DOUGLAS COUNTY**
**Wells Drilling**
Sargent—W. E. Brown, Douglas Oil 1.
**UNION COUNTY**
Bald Knob—Near Alta Pass, W. MacSmith 1.
**JASPER COUNTY**
**Wells Drilling**
Smallwood—N. Cunningham, George Vanders 1.
**COLES COUNTY**
**Wells Drilling**
Charleston—Joddy, H. McCurdy & Co. 1.
**FAYETTE COUNTY**
**Rigs**
Pope—John Baxter, H. McCurdy & Co. 1.

## INDIANA FIELD

**Summary of Field Operations**

| | Comp. | Prod. | Dry | Gas | Rigs | Drg. | Ttl. |
|---|---|---|---|---|---|---|---|
| Wells | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Blackford | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Jay | 1 | 20 | 0 | 0 | 0 | 2 | 2 |
| Adams | 2 | 30 | 0 | 0 | 0 | 1 | 1 |
| Delaware | 1 | 20 | 0 | 0 | 0 | 2 | 2 |
| Randolph | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Gibson | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Pike | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| Sullivan | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| Hendricks | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Knox | 1 | 0 | 1 | | 0 | 0 | 0 |
| Total Feb. | 7 | 70 | 3 | 0 | 1 | 11 | 12 |
| Total Jan. | 8 | 96 | 3 | 0 | 1 | 8 | 9 |
| Difference | 1 | 26 | 0 | 0 | 0 | 3 | 3 |

**WELLS COMPLETED**
**WELLS COUNTY**
Rock Creek—W. G. Heller, Plains Oil 1 dry
**BLACKFORD COUNTY**
Harrison—George Jackson, Smith & Edmundson 1 ... dry
**JAY COUNTY**
Penn—J. Sutton, American Engineering Co. 2 ... 20
Bear Creek—E. & T. Armontrout, W. J. Stevens 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 ... abd
S. R. & A. B. Bennett, W. J. Stevens 3, 4, 5, 6 ... abd
G. M. Graner, W. J. Stevens 3, 4, 5, 6 abd

Wells completed ... 1
Production ... 20
Abandoned ... 20

**ADAMS COUNTY**
Wabash—J. H. Barr, W. J. Heeter 4 ... 15
J. H. Barr, W. J. Heeter 5 ... 15

Wells completed ... 2
Production ... 30
**DELAWARE COUNTY**
Delaware—L. M. Coons, Clark & Hawkins 6 ... 20
**PIKE COUNTY**
Madison—J. P. Coleman, A. B. Bement 1 ... abd
**KNOX COUNTY**
I. & S. E. Shaffer, W. J. Stevens 2, 4. abd
Decker—C. Steckler, Joe Young & Co. 1 dry
**JAY COUNTY**
**Wells Drilling**
Penn — James Sutton, American Engineering 3.
Richland—A. N. Wilson, C. E. Whittengill 1.
Wells drilling, 2.
**ADAMS COUNTY**
**Wells Drilling**
Wabash—J. H. Barr, W. J. Heeter 6.
**DELAWARE COUNTY**
**Wells Drilling**
Delaware—L. M. Coons, Clark & Hawkins 7.
C. M. McNelly, W. W. Hawkins 3.
Wells drilling, 2.
**RANDOLPH COUNTY**
**Rigs**
Greene—W. Cline, T. O. Thorp 2.
**GIBSON COUNTY**
**Wells Drilling**
Center—Sam Mussey, Murphy Oil of Pa. 1.
**PIKE COUNTY**
**Wells Drilling**
Monroe—W. Owen, Ticheour & Co. 1.
Logan—Chas. Rumble, Miller & Davis 1.
Wells drilling, 2.
**SULLIVAN COUNTY**
**Wells Drilling**
Gill—James Springer, Fred Bays 2.
Turman—W. W. Haine, J. F. Bolinger & Co. 2.
Wells drilling, 2.
**HENDRICKS COUNTY**
**Wells Drilling**
Clay—W. E. Christy, Amo Oil 1.

## KENTUCKY-TENNESSEE

| | Comp. | Prod. | Dry | Gas | Rigs | Drg. | Ttl. |
|---|---|---|---|---|---|---|---|
| Wayne | 5 | 50 | 0 | 0 | 0 | 17 | 17 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Estill | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Wolfe | 3 | 22 | 0 | 0 | 0 | 5 | 5 |
| Lee-Owsley | 12 | 98 | 4 | 0 | 2 | 16 | 18 |
| Lawrence-Johnson | 17 | 447 | 1 | 0 | 1 | 29 | 30 |
| Johnson-Magoffin | 13 | 87 | 1 | 0 | 3 | 20 | 23 |
| Floyd | 3 | 0 | 0 | 3 | 0 | 12 | 12 |
| Elliott | 1 | 2 | 0 | 0 | 0 | 2 | 2 |
| Rowan | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| Breathitt | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| Jackson | 2 | 1 | 1 | 0 | 0 | 2 | 2 |
| Madison | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Fleming | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Bell | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Boyd | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Martin | 1 | 0 | 0 | 1 | 0 | 2 | 2 |
| Laurel | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| Harlan | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Greenup | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| Knox | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Warren | 11 | 413 | 4 | 0 | 3 | 30 | 33 |
| Allen | 16 | 93 | 8 | 0 | 2 | 19 | 21 |
| Barren | 24 | 162 | 4 | 1 | 0 | 40 | 40 |
| Owensboro | 6 | 25 | 3 | 0 | 1 | 13 | 14 |
| Cumberland | 7 | 6 | 5 | 1 | 1 | 15 | 16 |
| Russell | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| Logan | 2 | 0 | 2 | 0 | 0 | 1 | 1 |
| Simpson | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| Metcalf | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| Greene | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Kentucky | 126 | 1,406 | 35 | 7 | 14 | 242 | 256 |
| Tennessee | 5 | 325 | 3 | 0 | 6 | 9 | 15 |
| Mississippi | 0 | 0 | 0 | 0 | 6 | 20 | 26 |
| Alabama | 0 | 0 | 0 | 0 | 1 | 9 | 10 |
| Georgia | 0 | 0 | 0 | 0 | 1 | 4 | 5 |
| Total Feb. | 131 | 1,731 | 38 | 7 | 28 | 284 | 312 |
| Total Jan. | 94 | 1,206 | 25 | 7 | 32 | 244 | 276 |
| Difference | 37 | 525 | 13 | 0 | 4 | 40 | 36 |

## WELLS COMPLETED

### WAYNE COUNTY

Monticello—Bridgman, Spradling, Marsh & Co. 3 ..... 5
T. T. Davis, Vulcan Oil 14 ..... 8
J. W. Barnett, Frank & Daugherty 1. 20
Brown, Marsh, Shearer & O'Keefe 2. 15
P. L. Harmon, J. C. Brenner & Co. 3. 2

Wells completed ..... 5
Production ..... 50

### WOLFE COUNTY

Torrent — J. S. Roberts, Atlantic Oil Prod. 2 ..... 10
E. B. Roberts, Federal Oil 4 ..... 7
Spencer heirs, Kentucky Star Oil 2.. 5

Wells completed ..... 3
Production ..... 22

### LEE-OWSLEY COUNTIES

Beattyville—Susan Tincher, Combs Bros. Dev. 1 ..... dry
A. J. Combs, Combs Bros. Dev. 5.... 15
Adaline Porter, Hupp, Duff & Co. 5.. 20
James Porter, Hupp, Duff & Co. 2... 12
George Porter, Hupp, Duff & Co. 3.. dry
Gourley-McGuire, Black Gum Oil 10.. 12
Gourley-McGuire, Black Gum Oil 11.. 15
Gourley-McGuire, Petroleum Exploration 3 ..... 8
Robinson, French & Co. 1 ..... 6
Mehaffee, Carl Prather 1 ..... dry
Huntington, Huntington Oil Synd. 4.. 10
Little Sexton Creek, Dublin & Co. 1.. dry

Wells completed ..... 12
Production ..... 98
Dry ..... 4

### LAWRENCE-JOHNSON COUNTIES

North Weir Field—W. D. Lester, Union Gas & Oil 5 ..... 30
Levisa Skaggs, Union Gas & Oil 18... 3
Foster Ferguson, Union Gas & Oil 3.. 40
Foster Ferguson, Union Gas & Oil 4.. 35
C. K. Dobyne No. 1, Union Gas & Oil 5 ..... 50
C. K. Dobyne No. 1, Union Gas & Oil 6 ..... 40
Lewis Skaggs, Union Gas & Oil 15... 35
Caney Sparks, Union Gas & Oil 2 .... 40
C. E. Fralley, Union Gas & Oil 1 .... 50
C. K. Dobyne, Garrison & Townsend 14 ..... 42
C. K. Dobyne, Garrison & Townsend 15 ..... 25
Foster Ferguson, Garrison & Townsend 4 ..... 26
J. N. Sparks, Garrison & Townsend 1 22
G. Gilliam, Indian-Tex Pet. 3 ..... 7
Jesse Rose, Indian-Tex Pet. 8 ..... 2
Ira Lester, W. M. Stone & Co. 8 ..... dry
C. S. Skaggs, Elgley, Day & Co. 5 ... 3

Wells completed ..... 17
Production ..... 447
Dry ..... 1

### JOHNSON-MAGOFFIN COUNTIES

South Weir — J. J. Howard, Petroleum Exploration 1 ..... dry
W. S. Adams, Petroleum Exploration 22 ..... 8
W. M. Prater, Structure Oil 9 ..... 6
Tollie Conley, R. G. Gillespie 6 ..... 2
P. E. Caudill, Reno Oil 10 ..... 8
J. P. Conley, Cumberland Pet. 7 ... 6
Dan Harmon, C. T. Rule, Trustee 7.. 7
W. P. Adams, Oliver Jenkins 5 ..... 6
Green Risner, Virginia Gasoline & Oil 4 ..... 10
J. M. Frazier, J. F. Prater Rec. 1 ... 20
Hernando Grace, Hudson & Collins 6. 1
J. H. Arnett, Bed Rock Petroleum 18. 10
F. M. Hale, Cooper & Sublet 2 ..... 3

Wells completed ..... 13
Production ..... 87
Dry ..... 1

### FLOYD COUNTY

Hueyville—Elbert Collins, Yolando Oil 1 gas
Roy McCornice, Eastern Carbon Black 1 ..... gas
S. C. Allen, Eastern Carbon Black 8.. gas

Wells completed ..... 3
Gas ..... 3

### ELLIOTT COUNTY

Isonville—S. J. Peters, Campbell, Wheeler & Co. 5 ..... 2

### BREATHITT COUNTY

Jackson—Near Quicksand, Dukate & Co. 1 ..... gas

### JACKSON COUNTY

McKee—C. E. Ballard, Eastern Gulf Oil 1 ..... dry
Chas. Cox., Chas. Cox 17 ..... 1

Wells completed ..... 2
Production ..... 1
Dry ..... 1

### MARTIN COUNTY

Inez—Unknown, Carter Oil 1 ..... gas

### WARREN COUNTY

Bowling Green—Bryant, Cunningham & Henry 7 ..... 20
H. Shannon, Bolling & Lowman 3 ... 5
H. Shannon, Bolling & Lowman 4.... 15
Ben Ford Roy Hogan 4 ..... 60
Potter, Tichner & Co. 1 ..... dry
G. Davenport, T. A. Sheridan 3 ..... dry
G. Davenport, T. A. Sheridan 6 ..... 300
Jenkins, T. A. Sheridan 1 ..... dry
Manning, Teague & Co. 1 ..... dry
J. L. Jenkins, Midland Oil Corp. 9 .. 10
J. V. Covington, J. B. Fetty Trustee 6 3

Wells completed ..... 11
Production ..... 413
Dry ..... 4

### ALLEN COUNTY

Scottsville—Carpenter-Dent, unknown 8 dry
C. C. Hinton, Pennsylvania parties 1. dry
Lyle, Bastrus & Work 5 ..... dry
Kennedy, Hice & Co. 2 ..... dry
Mayhue, Andrus & Millett 4 ..... 2
Pin Brown, Sutton & Co. 1 ..... dry
Kennedy, Sutton & Co. 1 ..... 10
John Farley, Sutton & Co. 1 ..... dry
J. R. Hornbuckle, White Plains Oil & Gas 6 ..... 20
J. R. Hornbuckle, White Plains Oil & Gas 7 ..... 10
J. W. Frost, R. A. McLean 9 ..... 30
A. W. Duke, Vic DeCaigney 9 ..... 3
A. W. Duke, Vic DeCaigney 10 ..... 20
Will Gardner, Albert Davis 1, 2 ..... dry

Wells completed ..... 16
Production ..... 93
Dry ..... 8

### BARREN COUNTY

Glasgow—Fee, Starr Oil 5 ..... 4
Neeley, Stafford & Rhoedener 3 ..... dry
Price heirs, Rhoedener & Co. 2 ..... 8
B. Scott, Wiggins & Gillespie 7 ..... 12
Lewis, Stafford, Scott & Co. 2 ..... 2
Will Church, Wood Oil 2 ..... 2
Will Church, Wood Oil 3 ..... 25
John Church, Wood Oil 2 ..... 12
Hall-Baker, Consolidated Gas 2 ..... 15
Hall-Baker, Consolidated Gas 3 ..... 12
Houck, Consolidated Gas 1 ..... 4
Rogers, Consolidated Gas 1 ..... gas
Horace Church, McCandless & Co. 1.. dry
Evans Harrington & Norris Bros. 1.. 20
Evans, Harrington & Norris Bros. 2.. 11
J. M. Bybee, Lew J. Emery, Jr., Sons 1 ..... dry
Greer, Lew J. Emery, Jr., Sons 3.... 3
Travers, Fred Moore 4 ..... 4
Burris, Henderson Oil 4 ..... 8
Jess Wininger, Carter Oil 2 ..... 5
Jess Wininger, Carter Oil 3 ..... 9
Gooden, Carter Oil 3 ..... 4
Gooden, Carter Oil 4 ..... 2
Dorsey, Nelson & Co. 1 ..... dry

Wells completed ..... 24
Production ..... 162
Dry ..... 4
Gas ..... 1

### OWENSBORO DISTRICT

Owensboro—W. T. Beckett, I. N. Harkless 2 ..... dry
O. G. Ward, C. E. Daugherty 1 ..... dry
Widow Crowe, C. E. Daugherty 1 .... 10
Widow Crowe, C. E. Daugherty 2 .... 5
J. M. Bartley, Wood Oil 2 ..... 10
J. H. Evans, Thomas & Co. 2 ..... dry

Wells completed ..... 6
Production ..... 25
Dry ..... 3

### CUMBERLAND COUNTY

Burkesville—M. Scott, Coe & Co. 1 .... dry
Kin Crawford, Dayton Oil Synd. 4 .. dry
Carey, W. S. Raydure & Co. 1 ..... dry
A. D. Hood, McMullock & Raydure 1 gas
F. F. Smith, Oil Fork Dev. 1 ..... 6
Love Coe, E. B. West 2 ..... dry
Maud Blythe, Daniel Boone Oil 2 ... dry

Wells completed ..... 7
Production ..... 6
Dry ..... 5
Gas ..... 1

### LOGAN COUNTY

Auburn—Walters SW 50 acres, Stewart & Co. 1 ..... dry
Walters 2 40 acres, C. G. Foster 1... dry

Wells completed ..... 2
Dry ..... 2

### SIMPSON COUNTY

Franklin—J. J. Hogan, Small & Sally 4 dry

### GREENE COUNTY

Greensburg—Woolridge, M. K. White & Son 1 ..... dry

### TENNESSEE

### CLAY COUNTY

Celina—Draper, DaFoe & Co. 1 ..... 300
Swan, Dafoe & Co. 1 ..... 25
Stover, Alexander & Co. 2 ..... dry
Unknown, Spain & Co. 2 ..... dry

Wells completed ..... 4
Production ..... 325
Dry ..... 2

### SCOTT COUNTY

Glenmary—Bryant, Superior Oil Corp. 1 dry

### WAYNE COUNTY
#### Wells Drilling

Monticello — J. N. Huffaker, Bridgman & Co. 3.
W. T. Ashberry, J. H. Hatfield 4.
T. C. Morrow, Bowden Pet. Co. 8, 9.
Morrow, Bowden & Co. 4.
P. L. Harmon, J. C. Brommer 4.
Upchurch Head Brown & Co. 4.
Elam, Wright & Bell 1.
Dabney, Superior Oil Corp. 7.
C. W. Burnett, Frank Daugherty 2.
S. Henninghen, Illiken Oil Co. 2, 3.
T. T. Davis, Vulcan Oil 15.
A. W. Cambell, Clark O. & G. Co. 7.
Coffey heirs, Bell & Co. 1.
Bridgman, Spradlin & Marsh 4.
C. S. Huffaker, Wood Oil Co. 25.
Wells drilling, 17.

### ESTILL COUNTY
#### Wells Drilling

Irvine—Smith, Clark & Co. 2.

### WOLFE COUNTY
#### Wells Drilling

Torrent—James Roberts, Atlantic Oil Prod. Co. 3.
Ann Horton, McCombs Prod. & Ref. Co. 9.
E. B. Roberts, Federal Oil Corp. 5.
Spencer heirs, Kentucky Star Oil Co. 3.
Between Torrent and Glanclaren, B. G. Pratt 1.
Wells drilling, 5.

### LEE-OWSLEY COUNTIES
#### Rigs

Idamay—Spence Flannery-Pet. Exploration 16, 17.

#### Wells Drilling

Idamay—Gourley-Redman & McGuire, Petroleum Co. 4, 5.
Logan Combs, Combs Bros. 1.
Andy Combs, Combs Bros. 5, 6.
J. S. Combs, unknown 1.
Spencer heirs, Bush & McCandless 1.
Huntington, Huntington Oil Synd. 5.
Gourley, Redman & McGuire, Black Gum 12, 13.
Daniels-Foreman, Henry Oil Co. 2.
Dan Galliger, Petroleum Exploration 1.
David Deed, Petroleum Exploration 1.
White Oak Creek, Mart Davis 1.
Sturgeon Creek, Beamer & Co. 1.
Tom Quillan, Atlantic Oil Prod. Co. 1.
Rigs, 2; wells drilling, 16; total, 18.

### LAWRENCE-JOHNSON COUNTIES
#### Rigs

North Weir — Caney Sparks, Union Gas & Oil Co. 3.

#### Wells Drilling

North Weir—Castle heirs, Union Gas & Oil C. K. Dobyne, Union Gas & Oil 7.
J. E. Holbrook, Union Gas & Oil 3.
J. C. Gilliam, Union Gas & Oil 8.
Foster Ferguson, Union Gas & Oil 3.
W. D. Lester, Union Gas & Oil 6.
J. J. Skaggs, Cumberland Pet. Co. 4.
Robert Fyfee, Pluto Oil Co. 6.
Sparks, Carter Oil Co. 1.
Jesse Rose, Indian-Texas Pet. Co. 9.
J. D. Bond, J. T. Hare & Son 3.
Ira Lester, Wm. Stone & Co. 7, 9.
B. R. Hamilton, David Fox 4.
W. E. Skaggs, Hovis & Young 3.
G. Gilliam, Ind.-Tex. Pet. Co. 12, 13.
J. Lyon, Keaton O. & G. Co. 29.
W. H. Kellet, Mid South 2.
Wayne Moon, Tom Hays 1.
C. Osborne, Skaggs Miller & Co. 1.
C. K. Dobyne, Garrison & Townsend 16, 17, 18, 19.
Foster Ferguson, Garrison & Townsend 5.
J. N. Sparks, Garrison & Townsend 3.
Lizzie Collier, Garrison & Townsend 1.
W. A. Bailey, Hupp & Duff 1.
Rigs, 1; wells drilling, 29; total, 30.

### JOHNSON-MAGOFFIN COUNTIES
#### Rigs

South Weir—Eliza Powers, Clyde Oil Co. 6.
W. H. Collins, Petroleum Exploration 4.
Bailey heirs, Diamond Oil Co. 4.

#### Wells Drilling

South Weir—At Trace Fork, Pure Oil Co. 1.
Wm. Prater, Structure Oil 10.
Sam Collins, Cumberland Petroleum 10.
W. S. Adams, Pet. Ex. and Wiser Pet. 5.
W. P. Adams, Oliver & Jenkins 6.
H. Grace, Hudson & Collins 7.
Sam Blanton, R. G. Gillispie 16, 17.
J. D. Moore, R. G. Gillispie 2.
S. Howard, Mid South Pet. 5.
Sam Blanton, Mid South Pet. 6.
B. Blanton, Mid South Pet. 3.
F. M. Tackett, M. A. Wheeler & Co. 1.
Jess Adams, Model Oil Co. 3.
C. Sayler, Bed Rock Pet. 2.
B. F. Whitt, Marie Oil Co. 2.
Julia Sayler, Magoffin Dev. Synd. 3.
H. Patrick, Burning Fork Synd. 2.
J. H. Gardner, New Domain O. & G. Co. 10.
Wireman, Hays & Rogers 1.
Rigs, 3; wells drilling, 20; total, 23.

### FLOYD COUNTY
#### Wells Drilling

Hueyville—T. Collins Yolondo Oil Co. 1.
Kentucky Pine Coal Lands, Brown & Harmon 1.
C. D. Potnack, Carter Oil Co. 1.
W. J. Turner, Carter Oil Co. 1.
Noah Martin, Carter Oil Co. 1.
John Martin, New Domain O. & G. 4.
J. D. Turner, Ohio Fuel Oil Co. 3.
Millie Miller, Ohio Fuel Oil Co. 1.
H. D. Martin, Ohio Fuel Oil Co. 1.
M. Martin, Ohio Fuel Oil Co. 1.
Tandy Martin, Louisville Gas & Electric Co. 2.
Maryland Martin, Louisville Gas & Electric Co. 1.
Wells drilling, 12.

### ELLIOTT COUNTY
#### Wells Drilling

Isenville—J. F. Diles, Wheeler & Cambell 3.
T. W. Kelley, McConnel & Co. 1.
Wells Drilling 2.

### ROWAN COUNTY
#### Wells Drilling

Morehead—Caney Creek, McDonald & McGuire 1.
Near Hope, McKinney Bros. 1.
Wells drilling, 2.

### JACKSON COUNTY
#### Wells Drilling

McKee—Unknown, Standard Oil of Ky. 1.
Near Grey Hawk, Standard Oil of Ky. 1.
Wells drilling, 2.

### GREENUP COUNTY
#### Wells Drilling

Greenup—Tobias Burke, Engles & Co. 1.
Reuben Potter, Foreman & Co. 1.
Baglin, Young & Co. 1.
Wells drilling, 3.

### MARTIN COUNTY
#### Wells Drilling

Inez—Alfred Carter, Big Derby O. & G. 1.
Mayo properties, Leonard & Ralph 1, 2.
Wells drilling, 2.

### MADISON COUNTY
#### Wells Drilling

Boonesboro Beach — D. J. Williams, J. N. Thompson 1.

### FLEMMING COUNTY
#### Wells Drilling

Grange City—Unknown, Dr. Connely 1.

### KNOX COUNTY
#### Wells Drilling

Stinking Creek—Unknown, Standard Oil of Kentucky 1.

### BELL COUNTY
#### Wells Drilling

Middlesboro — Canada, Mt. Canada Peak Oil Co. 1.

### BOYD COUNTY
#### Wells Drilling

Ashland—Al Bartram, unknown 1.

### LAUREL COUNTY
#### Wells Drilling

London, Mrs. Hubbard, Piney O. & G. 1.

### HARLAN COUNTY
#### Wells Drilling

Harlan—Near Colfax, Rex G. Carpenter 1.

### WARREN COUNTY
#### Rigs

Bowling Green — Price-Hall, Ruby Consolidated Dev. Co. 6.
Price, Caskey & Pryor 5.
Lee Butts, Russell Oil Co. 4.

#### Wells Drilling

Bowling Green — Jess Shanks, Amfot Oil Corp. 8, 9, 10.
W. R. Hunton, P. H. Lavelle 7.
Gillispie, H. Z. SClark, trustee 5.
Gillispie, Gillispie Oil Corp. 10.
Bryant, Cunningham & Henry 8.
Morehead, Lucille Oil Synd. 6.
Geo. Riggiewood, H. J. Dobson 5.
Allen, JCS Oil Corp. 1.
C. L. Dillard, Roy Hogan 3.
Berry-Robinson, Cilder Bros. 1.
Kimbro, Rockfield Oil Co. 4.
Stanley, Bolling & Loman 1.
Vance, Illinois Kentucky Oil Synd. 6.
V. Andrews, Illinois, Kentucky Oil Synd. 1.
Dr. Moss, Frank Fritz 6.
Elrod, Lydia Oil Co. 9.
Wilson, George McGinley 4.
G. Davenport, T. A. Sheridan 5, 7, 8.
Oliver Grims, Wood Oil Co. 7.
Biddle, Cadet O. & G. Co. 22.
Ora S. Davenport, Onsel-Harnahan Oil Co. 4.
Montague, Evans & Co. 1.
Hobson heirs, M. B. Williams 5.
Ora S. Davenport 25 acres, M. A. Rosanky & Co. 4.
Hewitt, New Domain O. & G. 5.
Bronson, unknown 14.
Rigs, 3; wells drilling, 30; total, 33.

### ALLEN COUNTY
#### Rigs

Scottsville—Straight, M. W. Graham 2.
Carver, McCandless & Co. 12.

#### Drilling Wells

Scottsville — W. E. Oliver, Gainesville Oil Synd. 2.
Lee Moore Lee Moore 4.
Frost, Thompson & Meredith 1.
Costello, Guy & Co. 1.
T. Hinton, unknown 2.
Clack, Neeley, Lamp & Co. 3.
Lyle, Lastrus & Work 5, 6.
Kennedy, Hice & Co. 3.
J. R. Goodrum, Andrus & Millet 2.
J. W. Frost, R. A. McLean 10.
Britt, R. A. McLean 1.
J. R. Hornbuckle, White Plains O. & G. Co. 8.
A. W. Duke, Victor DeCaigney 11.
Rathburn, Kentucky Dev. Synd. 4.
F. Dyron, Ruby Cons. Dev. Co. 10, 11.
E. A. Ayers, Wynn, Lowe & Co. 17, 18.
Rigs, 2; wells drilling, 19; total, 21.

### BARREN COUNTY
#### Wells Drilling

Glasgow—Hans Gassaway, Moore & Baker 2.
Moore, Fred Moore 7.
Steffey, Esslinger Oil Co. 3, 4.
Travis, Fred Moore 5.
Ritchie, Star Oil Co. 14, 15, 16.
Starr, Star Oil Co. 6.
Free, Star Oil Co. 6.
Burris, Henderson Oil Co. 5.
B. Scott, Wiggins & Gillispie 8.
Gooden, Carter Oil Co. 5.
Burton heirs, Shriver & Co. 1.
Dossey, Nelson & Co. 2.
Price, Stafford & Rhoedener 3.
Jess Wininger, Carter Oil Co. 4.
Lewis, Stafford, Scott & Co. 3.
Childress, Kopel Oil Co. 7.
Hall Baker, Consolidated Gas Co. 4, 5, 6.
Turnet, Consolidated Gas Co. 1.
Will Church, Wood Oil Co. 4.
John Church, Wood Oil Co. 3, 4.
Rich, Jackson & Co. 1.
Evans, Harrington & Norris 3.
Dodder, Reese & Co. 2.
Ben Meyers, Sanson & Co. 1.
Webb, Smith & Son 1.
Bybee, T. L. Gorby 1.
Depp & Greer, L. J. Emery, Jr., & Sons 4.
C. W. Bellamy, L. J. Emery, Jr. & Sons 1.
McLaughlin, Porter & Co. 2.
Hatfield, Big Jack O. & D. Co. 1, 2.
John Wells, L. J. Emery, Jr., & Sons 1.
J. A. Dodd, Mammerly & Co. 1.
Ritter Bros. Stafford & Maxey 2.
Wells drilling, 40.

### OWENSBORO DISTRICT
#### Rigs

Owensboro—Jess Swone, Nutty & Pyle 2.

#### Wells Drilling

Owensboro—M. Mosley, Mosley Oil Co. 1.
Gabbard, Pellville Oil Co. 1.
Heffler, Thomas & Co. 1.
J. H. Evans, Thomas & Co. 3.
Dick Spurrie, I. N. Harkless 3.
F. V. Miller 61 acres, C. A. Leeper 1.
Veach, C. A. Leeper 1.
R. M. Miller, Panther Creek Oil Co. 12.
O. G. Ward, C. E. Daugherty 2.
Widow Crowe, C. E. Daugherty 3, 4.
J. M. Bartley, Wood Oil Co. 2.
Beauchamp, C. A. Leeper 1.
Rigs, 1; wells drilling, 13; total, 14.

### CUMBERLAND,MONROE COUNTIES
#### Rigs

Burkesville—Sharp, Wilcox Bros. 1.

#### Wells Drilling

Burkesville — Maude Blythe, Daniel Boone Oil and South Kentucky Oil Co. 2.
Hiram Wells, unknown 1.
Coffee, Young Oil Co. 3.
Davidson, Wilcox Bros. 1.
Wess Nun, Hook & Wise 1.
C. V. Williams, Cumberland Oil Synd. 1.
Coop, Kanawha Oil Co. 1.
Link, Lee Tomilson 1.
J. C. Hood, Baldemsberger & Thrasher 1.
Bow, Judio Dev. Co. 1.
Judio Dome, Judio Dev. Co. 1.
C. T. Cheatham, Robt. Stead 1.
Rathford, Richardson & Goff 1.
Tompkins Vedder Oil Co. 2.
M. C. Scott, Vedder Oil Co. 2.
Rigs, 1; drilling wells, 15; total, 16.

### RUSSELL COUNTY
#### Wells Drilling

Creelsboro—B. F. Leach, Carnahan Oil Co. 4.
A. O. Lay, Redman & Co. 1.
Nellie Blesbee, Creelsboro parties 1.
Wells drilling, 2.

### METCALF COUNTY
#### Wells Drilling

Edmonton—A. J. Thompson, T. Fetty & Co.

Near Edmonton, J. C. Richards 1.
L. H. Thompson, Hartramf & Co. 1.
Wells drilling, 3.

**LOGAN COUNTY**
**Wells Drilling**
Auburn—Jim Peart, Mullin & Raegle 7.
**SIMPSON COUNTY**
**Rigs**
Franklin — B. F. Summers, E. M. Treat & Co. 13.
**CLAY COUNTY**
**Wells Drilling**
Celina—Tinsley's Bottom, Oil Fork Dev. 1.
Ogelsthorpe, Dafoe & Co. 1.
Wells drilling, 2.
**GIBSON COUNTY**
**Wells Drilling**
Dyer—Holt Farm, Rinehart Oil Corp. 1.
**SUMNER COUNTY**
**Wells Drilling**
Gallatin—Stewart-Terrell Dr. T. A. Sims 2.
**OHIO COUNTY**
**Wells Drilling**
Trimble—M. A. Gauldin, Richards & Miller 1.
**MADISON COUNTY**
**Rigs**
Jackson—Judie Howard, Cincinnati Oil 2.
**HARDEMAN COUNTY**
**Wells Drilling**
Bolivar—Brown Sans, Spring Valley Dev. 1.
**FAYETTE COUNTY**
**Rigs**
Sommerville—Joe Perry, M. A. Strickland & Co. 1.
**BENTON COUNTY**
**Rigs**
Clarksville—Near Eva, Benton O. & G. 1.
Near Camden, unknown 1.
Rigs, 2.
**HAMILTON COUNTY**
**Rigs**
Chattanooga—Near Daisy, Dryden Oil 1.
**RHEA COUNTY**
**Rigs**
Dayton—Near Dayton, unknown 1.
**OVERTON COUNTY**
**Wells Drilling**
Jamestown—Mitchell Creek, W. H. Boswell 1.
**MACON COUNTY**
**Wells Drilling**
Center County—Jim Hayes, Catson & Co. 1.
**SCOTT COUNTY**
**Wells Drilling**
Bryant—Bryant, Superior Oil Corp. 2.
**MISSISSIPPI**
**CHICKASAW COUNTY**
**Wells Drilling**
Houston—Flarity, Danner Oil & Gas Trust 2.
**CLAY COUNTY**
**Rigs**
West Point—Gulf Development 1.
**PIKE COUNTY**
**Rigs**
Magonlia—Poor Farm, Mississippi Explor. 1.
**UNION COUNTY**
**Rigs**
Wallerville—Sappington, Minyard Wells Oil 1.
**Wells Drilling**
Wallerville—J. Woodson, Minyard Wells Oil 1.
Rigs, 1; wells drilling, 1; total, 2.
**FRANKLIN COUNTY**
**Wells Drilling**
Jackson—McGhee Fletchering & Co. 1.
**COPIAH COUNTY**
**Wells Drilling**
Hazlehurst—White, B. H. White 1.
Sidlake, Marshall Oil 1.
Wells drilling, 2.
**HINDS COUNTY**
**Wells Drilling**
Elton—Near Elton, Jackson Oil 2.
**JEFFERSON COUNTY**
**Wells Drilling**
Truly—Near Truly, Manhattan-Tex Pet. 2.
**JACKSON COUNTY**
**Wells Drilling**
Utica—Near Utica, Jackson Oil 1.
**LAFAYETTE COUNTY**
**Wells Drilling**
Oxford—M. H. Barkis, Kinsey & Co. 1.
**LOWNDES COUNTY**
**Wells Drilling**
Artesia—Billups, Anderson Drilling 1.
**WASHINGTON COUNTY**
**Wells Drilling**
Sec. 30-14-9—Williams, Alhambra Oil & Gas 2.
**LINCOLN COUNTY**
**Wells Drilling**
Hartman—Near Hartman, Anderson Drg. 1.
**ITAWAMBA COUNTY**
**Wells Drilling**
Fulton—J. E. Sumner, Stenan & Co. 1.
**CALHOUN COUNTY**
**Rigs**
Calhoun City—J. Gregory, Northeast Oil 1.
**LEAKE COUNTY**
**Wells Drilling**
Conway—Near Conway, Chas. B. Stoll 1.
**MADISON COUNTY**
**Wells Drilling**
Madison—Nichols, Madison County Oil 1.
**GRANADA COUNTY**
**Wells Drilling**
Granada—Near Granada, Borden & Co. 1.
**CLAIBORNE COUNTY**
**Rigs**
Port Gibson—Bell Young, Mississippi Exploration 1.
**HOLMES COUNTY**
**Rigs**
Coxburg—Sec. 18-13-1, Free Run Oil 1.
**PANOLA COUNTY**
**Wells Drilling**
Sec. 35-27-2—Klehni, Courtland Oil & Gas 2.
**PERRY COUNTY**
**Wells Drilling**
Richton—Donald, Donald Oil 1.
**RANKIN COUNTY**
**Wells Drilling**
Sec. 7-3-4—Finborne Oil 1.
**SCOTT COUNTY**
**Wells Drilling**
Forest—Graham, Mississippi Oil & Gas 1.

**ALABAMA**
**MORGAN COUNTY**
**Wells Drilling**
Albany—J. English, Albany-Decatur Oil & Gas 1.
**BALDWIN COUNTY**
**Wells Drilling**
Bay Minnette—R. A. Evans, Stoll & Co. 1.
**SUMTER COUNTY**
**Wells Drilling**
Cartopa—Sam W. Kendall 1.
**HALE COUNTY**
**Wells Drilling**
Greensburg—Hale Oil 1.
**SHELBY COUNTY**
**Wells Drilling**
Chelsea—Scott, Cooksey Oil 1.
**WILCOX COUNTY**
**Wells Drilling**
Selma—Blue Belle Oil 1.
**CLARKE COUNTY**
**Wells Drilling**
Columbia — Hatchtigbee Anticline, Inter-Coastal Oil 1.
McCorquedale, Keoughan & Co. 1.
Wells drilling, 2.
**MADISON COUNTY**
**Wells Drilling**
Hunterville—P. J. Mahoney 1.
**LAWRENCE COUNTY**
**Rigs**
Moulton—Near Moulton, Tulsa parties 1.
**GEORGIA**
**PULASKI COUNTY**
**Rigs**
Hawkensville—Florida-Georgia Cons. Oil 1.
**JEFF DAVIS COUNTY**
**Wells Drilling**
Hazlehurst—Mid-Georgia Oil & Gas 1.
**TELFAIR COUNTY**
**Wells Drilling**
Scotland—Telfair Oil 1.
**BURKE COUNTY**
**Wells Drilling**
Green Cut—Three Creeks Oil 1.
**WHITEFIELD COUNTY**
**Wells Drilling**
Dalton—Richardson Oil & Gas 1.

## GULF COAST

**Summary of Field Operations**

| District— | Comp. | Prod. | Dry | Gas | Rigs | Drg. | Ttl. |
|---|---|---|---|---|---|---|---|
| Batson | 5 | 90 | 1 | 0 | 1 | 4 | 5 |
| Blue Ridge | 1 | 125 | 0 | 0 | 2 | 2 | 4 |
| Big Creek | 0 | 0 | 0 | 0 | 2 | 4 | 6 |
| Barber Hill | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| Edgerly (La.) | 2 | 250 | 1 | 0 | 0 | 1 | 1 |
| Goose Creek | 7 | 490 | 3 | 1 | 3 | 13 | 16 |
| Humble | 1 | 0 | 1 | 0 | 1 | 4 | 5 |
| Hull | 19 | 4,305 | 3 | 0 | 7 | 19 | 26 |
| Jennings (La.) | 3 | 770 | 0 | 0 | 1 | 1 | 2 |
| Markham | 1 | 60 | 0 | 0 | 0 | 1 | 1 |
| Orange | 15 | 7,425 | 9 | 0 | 2 | 20 | 22 |
| Pierce Jct. | 1 | 225 | 0 | 0 | 1 | 2 | 3 |
| Spindletop | 4 | 350 | 0 | 0 | 2 | 3 | 5 |
| Saratoga | 2 | 25 | 1 | 0 | 1 | 3 | 4 |
| Sour Lake | 4 | 530 | 0 | 0 | 2 | 4 | 6 |
| W. Columbia | 2 | 10 | 1 | 0 | 1 | 2 | 3 |
| Vinton (La.) | 4 | 0 | 4 | 0 | 0 | 14 | 14 |
| S. Liberty | 3 | 2,700 | 0 | 0 | 3 | 19 | 22 |
| Lockport (La.) | 2 | 250 | 2 | 0 | 0 | 2 | 2 |
| Miscellaneous | 4 | 10 | 2 | 1 | 14 | 36 | 50 |
| Total Feb. | 82 | 17,615 | 29 | 2 | 43 | 155 | 198 |
| Total Jan. | 64 | 10,875 | 23 | 1 | 44 | 131 | 175 |
| Difference | 22 | 6,740 | 6 | 1 | 1 | 24 | 23 |
| Southwest Fields— | | | | | | | |
| Luling | 6 | 1,500 | 1 | 0 | 2 | 8 | 10 |
| Laredo | 3 | 100 | 0 | 2 | 2 | 10 | 12 |
| Jim Hogg Co. | 8 | 7,200 | 0 | 0 | 8 | 13 | 21 |
| Somerset | 0 | 0 | 0 | 0 | 1 | 3 | 4 |
| Calliham | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| Rockdale-Minerva | 0 | 0 | 0 | 0 | 1 | 3 | 4 |
| Miscellaneous | 0 | 0 | 0 | 0 | 16 | 46 | 62 |
| Total Feb. | 17 | 8,800 | 1 | 2 | 30 | 86 | 116 |
| Total Jan. | 19 | 7,100 | 5 | 2 | 32 | 86 | 118 |
| Difference | 2 | 1,700 | 4 | 0 | 2 | 0 | 2 |
| Grand total Feb. | 79 | 26,415 | 30 | 0 | 73 | 241 | 314 |
| Grand total Jan. | 83 | 17,975 | 28 | 0 | 76 | 217 | 293 |
| Difference | 4 | 8,440 | 2 | 0 | 3 | 24 | 21 |

**WELLS COMPLETED**

**BATSON**
Wing Gulf Production 161 ..... 10
Texas, East Batson Oil 2 ..... 15
Paraffin Acorn Oil 51 ..... 5
Condon Ada Bell Oil 82 ..... sw
Hodges, Anderson & Munson 1 ..... 60
Wells completed ..... 5
Production ..... 90
Salt water ..... 1

**BLUE RIDGE**
Luscher, Gulf Production 7 ..... 125

**BARBER HILL**
Collier-Fisher, The Texas Co. 2 ..... abd

**EDGERLY (La.)**
Bright-Penn, Gulf Ref. 7 (wo) ..... sw
Fairchilds, Lake Charles Oil 5 (wo) .. 250
Wells completed ..... 2
Production ..... 250
Salt water ..... 1

**GOOSE CREEK**
Smith, Humble Oil & Ref. 59 ..... abd
Tabb, Gulf Production 10 (wo) ..... 25
State land, Gulf Production 17 ..... 300
Tabb, Humble Oil & Ref. 6 (wo) ... abd
Bryan, Copeland Oil 5 ..... sw
Galliard, Gulf Coast Oil 32 ..... 150
Wright, the Sun Oil Co. 5 (wo) ..... 15
Wells completed ..... 7
Production ..... 490
Abandoned and salt water ..... 3

**HUMBLE**
Burt, Martin & Co. 1 ..... dry

**HULL**
Phoenix, Gulf Production 44 ..... 800
Phoenix, Gulf Production 45 ..... 150
Baldwin, Gulf Production 11 ..... 150
Dolbear, Republic-Houston Oil 56 (wo) 100
Dolbear, Republic-Houston Oil 90 .... abd
Dolbear, Republic-Houston Oil 98 .... 310
Dolbear, Republic-Houston Oil, 99 .... 100
Dolbear, Republic-Houston Oil, 100 ... 750
Dolbear, Republic-Houston Oil, 101 ... 75
Dolbear, Republic-Houston Oil 102 ... 100
Taylor, Higgins Oil & Fuel 5 ..... 850
Hannah, Texas-Vacuum Oil 4 ..... 220
Barngrover, Empire Gas & Fuel 16 ... 200
Fee, Eagle Point Oil 2 ..... abd
Scarborough, Gulf Production 14 ..... 100
Hannah, Gulf Production 16 ..... abd
Mecom, Mecom Oil 6 ..... 300
Mecom, Mecom Oil 7 ..... 100
Wells completed ..... 19
Production ..... 4305
Abandoned ..... 3

**JENNINGS**
Latrele, Port City Oil 2 (wo) ..... 500
Fee, Coastal Fuel Oil 88 ..... 250
Producers, Hines 1 (wo) ..... 20
Wells completed ..... 3
Production ..... 770

**MARKHAM**
Gray, Rycade Petroleum 1 ..... 60

**ORANGE**
Chesson, Humble Oil & Ref. 10 ..... dry
Winifree, Humble Oil & Ref. 11 .....3000
McGuire, Kishi Development 5 ..... abd
Chesson, Gulf Production 2 ..... sw
Chesson, Gulf Production 3 ..... sw
Winifree, North Am. Oil 1 ..... abd
Chesson, Mutual Oil 9 ..... 75
Peveto, Gulf Production 8 .....1200
Jee Hager, Gulf Production 17 ..... dry
State land, Anderson & Cameron 2.... 800
Chesson, Mutual Oil 14 .....2300
Jackson, Supreme Oil 1 ..... sw
Chesson, Orange Petroleum 8 ..... sw
Hager-Moore, Gulf Production 3 ..... 50
Hammam-Consolidated, Gulf Prod. 2... sw
Wells completed ..... 15
Production .....7425
Abandoned and salt water ..... 9

**PIERCE JUNCTION**
Taylor, Gulf Production 11 (wo) ..... 225

**SPINDLETOP**
Glayds, Williams Oil 1 ..... 40
Gladys, McKinney Oil 1 ..... 45
McFadden, Stella Oil 6 ..... 40
Gladys, Gulf Production 211 ..... 225
Wells completed ..... 4
Production ..... 350

**SARATOGA**
Lewis, Paggi Bros. Oil 6 ..... dry
BBBC, Gulf Production 23 ..... 25
Wells completed ..... 2
Production ..... 25
Dry ..... 1

**SOUR LAKE**
Fee, The Texas Co. 281 ..... 15
Fee, Gilbert Oil 95 ..... 10
Bashara, T. G. Barkley 1 ..... 5
Gilbert, Yount-Lee Oil 1 ..... 500
Wells completed ..... 4
Production ..... 530

**WEST COLUMBIA**
McGregor, Hyde Production 6 ..... abd
Pipkin-Lee, Humble Oil & Refining 15.. 10
Wells completed ..... 2
Production ..... 10
Abandoned ..... 1

**VINTON**
Star, Gulf Refining 34 ..... abd
Harmony, Vinton Petroleum 8 ..... abd
G. N. G., Gulf Refining 60 ..... abd
Gray, Vinton Petroleum 1 ..... sw
Wells completed ..... 4
Abandoned and salt water ..... 4

**LOCKPORT (La.) CALCASIEU PARISH**
Farquahar, Vacuum Oil 1 ..... 250
Bordages, Vacuum Oil 1 ..... abd
Clooney, Southern Exploration 1 ..... abd
Wells completed ..... 3
Production ..... 250
Abandoned ..... 2

**SOUTH LIBERTY**
Pickett, M. Bennett, 1-B ..... 800
Harrison, Oxford Oil 1 ..... 900
Barrett, Vacuum Oil 1 .....1000
Wells completed ..... 3
Production .....2700

**MISCELLANEOUS**
**Harris County—**
Malone, Giescke & Davis 1 ..... abd
**Wharton County—**
McCloud, Gulf Production 1 ..... abd
**Refugio County—**
Woodville, Pratt-Hewitt Co. 6 ..... gas
**Galveston County—**
High Island, Patton Oil 10 ..... 10
Wells Completed ..... 4
Production ..... 10
Gas ..... 1
Abandoned ..... 2

**BATSON**
**Rigs**
Davis, Ada Belle Oil 90.
**Wells Drilling**
Wing, Gulf Production 162.
Milhome, S. R. Buchanan 81.
Fee, Paraffin Oil 38.
Paraffin, Acorn Oil 53.
Rigs, 1; wells drilling, 4; total, 5.

**BLUE RIDGE**
**Rigs**
Invincible, Gulf Production 3.
Luscher, Gulf Production 8.
**Wells Drilling**
Robinson, The Texas Co. 12 (dpng).
Blakely, Gulf Production 10-C.
Rigs, 2; wells drilling, 2; total, 4

**BIG CREEK**
**Rigs**
Davis, Gulf Production 19, 20.
**Wells Drilling**
Davis, Gulf Production 17, 18.
Wheat, Gulf Production 9.
Lingua, The Texas Co. 1.
Rigs, 2; wells drilling, 4; total, 6.

**BARBER HILL**
**Wells Drilling**
Collier, S. J. Hindman 1.

**EDGERLY**
**Wells Drilling**
Hunter, Roxana Petroleum 1.

**GOOSE CREEK**
**Rigs**
J. Galliard, Gulf Production 17.
C. Galliard, Gulf Production 10-A.
State land, Gulf Production 32.
**Wells Drilling**
H. Busch, Gulf Production 2 (dpng).
Beaumont, Gulf Production 30.
Paddock, Gulf Production 3.
Wright, Gulf Production 4-A.
Hirsch, Gulf Production 1 (dpng).
Galliard, Gulf Production 18.
Hog Island, Humble Oil & Ref. 1.
Smith, Humble Oil & Ref. 47 sd; 63.
Galliard, Gulf Coast Oil 31.
Wright, Southern Exploration 3, 9, 10.
Rigs, 3; wells drilling, 13; total, 16.

**HUMBLE**
**Rigs**
River, Sun Oil Co. 28.
**Wells Drilling**
House, The Texas Co. 8 (wo).
Birsonett, John Deering 2.
Long, Massilas Brothers.
Koehler, Martin & Co. 1, sd.
Rigs, 1; wells drilling, 4; total, 5.

**HULL**
**Rigs**
Wheelock, Eagle Point Oil 3.
Dolbear, Republic Prod. 97 (wo), 104, 106.
Taylor, Houston Production 9.
Hannah, Gulf Production 17.
Stengler, Gulf Production 1.
**Wells Drilling**
Morris-Phillips, Gulf Production 20.
Baldwin, Gulf Production 12.
Phoenix, Gulf Production 14 wo, 30 wo 46, 47.
Scarborough, Gulf Production 15.
Ray, W. B. Flynn 3.
Taylor Houston Production 8, 11.
Barngrover, Empire Gas & Fuel 16.
Stengler, Yount-Lee Oil 5, 6.
Hahhan, The Texas Co. 1, 2.
Taylor, Higgins Oil & Fuel 4.
Guedry, Humble Oil & Ref. 10.
Merchant, Humble Oil & Ref. 1.
Dolbear, Republic Production 6 (wo).
Rigs, 7; wells drilling, 19; total, 26.

**JENNINGS**
**Rigs**
Trusel, Foxman Oil 1.
**Wells Drilling**
J. C., Gulf Refining 34.
Rigs, 1; wells drilling, 1; total, 2.

**MARKHAM**
**Wells Drilling**
Gray, Rycade Pet. Corp. 2.
Wells drilling, 2.

**ORANGE**
**Rigs**
Hager-Moore, Gulf Prod. 4 (dpng).
Chesson, Mutual Oil 14.
**Wells Drilling**
Granger, Gulf Production 1.
Kishi-Long, Gulf Production 9-A.
Hager-Moore, Gulf Production 3.
Chesson, Gulf Production 4-A.
Lee Hager, Gulf Production 17.
Consolidated, Gulf Production 2 (dpng).
Moore, Atlantic Oil Prod. 3.
Granger, Sinclair Oil & Gas 4.
Galliher, Monarch Oil & Ref. (Peer) 5.
Chesson, Orange Pet. 8.
Winifree, Orange Pet 9 sd.
Jackson, Supreme Oil 1.
Gunstream, the Sun Oil Co. 6.
Brown, the Sun Oil Co. 3.
State land, Rycade Petroleum 5-A, 2-C.
Chesson, Humble Oil & Ref. 9-B, 21.
Chesson, Mutual Oil 4, 7.
Rigs, 2; wells drilling, 20; total, 22.

**SPINDLETOP**
**Rigs**
McFadden, Stella Oil 7.
National, Unity Oil 43.
**Wells Drilling**
Lawrence, Ellis & Lancaster 1.
White, Baker Oil 11.
Gladys, Gulf Production 212.
Rigs, 2; wells drilling, 3; total, 5.

**SARATOGA**
**Rigs**
BBBC, Gulf Production 24.
Hooks, Skinner Oil 1.
**Wells Drilling**
Texas, the Sun Oil Co. 58.
Petty, Regna Oil 1.
Bryant, Rio Bravo Oil 3.
Lewis, Paggi Brothers Oil 6 sd.
Rigs, 2; wells drilling, 4; total, 6.

**SOUR LAKE**
Linn, Yount-Lee Oil 5.
**Wells Drilling**
Tarver-Hardin, Gulf Production 27
B. & E., Sun Oil Co. 61.
Gilbert, Gilbert Oil 96.
Rigs, 1; wells drilling, 3; total, 4.

**WEST COLUMBIA**
**Rigs**
Wilson, Humble Oil & Refining 1.
**Wells Drilling**
Pipkin-Lee, Humble Oil & Refining 15.
McGregor, Hyde Production 7.
Rigs, 1; wells drilling, 2; total, 3.

**PIERCE JUNCTION**
**Rigs**
Cain, Gulf Production 2.
**Wells Drilling**
Cain, Snowden & McSweeney 8.
Dooley, Texas Exploration 7.
Rigs, 1; wells drilling, 2; total, 3.

**VINTON**
**Wells Drilling**
Star, Gulf Refining 23, 27.
G. N. G., Gulf Refining 61.
Vincent, Gulf Refining 38.
Rescue, Vinton Petroleum 6.
Harmony, Vinton Petroleum 14.
Vincent, Vinton Petroleum 15.
Gray, Marrs McLean 5.
Lizzo, Marrs McLean 2.
Vincent, Marrs McLean 3.
Gray, The Texas Co. 1-B.
Gray, The Texas Co. 2-A.
Johnson, The Sun Co. 3.
Green, Seiss Oil 5.
Wells drilling, 14.

**LOCKPORT (La.) CALCASIEU PARISH**
**Wells Drilling**
Miller, Vacuum Oil 2.
Union, Marland Oil & Refining 1.
Wells drilling, 2.

**SOUTH LIBERTY**
**Rigs**
Hamman, Gulf Production 1.
Monroe, The Texas Co. 1.
Pickett, Bashara Oil 2.
**Wells Drilling**
Pickett, M. Bennett 2, 3.
Rivere, M. Bennett 1.
Rivere, Humble Oil & Refining 1-B.
Pickett, Humble Oil & Refining 1.
Chambers, Humble Oil & Ref. 1.
Barrett, Vacuum Oil 2-2.
Rivere, Vacuum Oil 2.
E. Pickett, Bashara Oil 1.
Harrison, Monarch Oil & Refining 1, 1.

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Pickett, Hofer Oil 1.
Baldwin, Esperson Oil 1.
Andwers, F. M. Long 1.
Shade, the Sun Oil Co. 1.
Van de Venter, Gulf Production 1, 2.
Speer, Gulf Production 1, 2.
Rigs, 3; wells drilling, 19; total, 21.

**MISCELLANEOUS GULF COAST**
**Rigs**

**Angelina County—**
Henne, Ferdinand et al 2, 3.
**Brazoria County—**
Weedy posture, Minneapolis parties 1.
Clute, The Texas Co. 1.
Flaffpond, Gulf Production 1.
**Chambers County—**
Smith, northwest of Anahuac, H. J. Hindman 2.
Fee, George White 1.
**Jefferson County—**
Big Hill, Houston Oil 6 Stati.
South of China, Paggi Oil 2.
Sun Pipeline 4.
**Harris County—**
La Porte, Bay Shore Pet. 3, Grimes.
Cedar Bayou, C. T. Rucker 1.
**Wharton County—**
Boling Dome, H. O. & R. 3-A, Watkins.
**Montgomery County—**
McMasters, National Refining Co. 1.
**Wells Drilling**
**Brazoria County—**
Bryan Heights, Bryan Production 1 (dpng.)
Stratton, Dannebaum, Stratton Ridge Oil 14.
Nash, Rycade Petroleum 3.
Burns, Gulf Production Co. 1.
**Brazos County—**
Two miles south of College Station, Bryan Petroleum 1 sd.
**Duval County—**
Singer, Humble Oil & Ref. 6.
Mesquite, Mesquite Oil 1.
Dinn, Cooperative Drilling 2, sd.
**Fort Bend County—**
Moore, Gulf Production 3.
Davis, Pathfinder Oil 6.
Vogel, Gulf Coast Development Co. 3.
**Galveston County—**
High Island, Guidry, Yount-Lee Oil 4.
Brussard, the Sun Oil Co. 2.

READ THE
Classified Wants
Pages 110-111-112
DO IT NOW
YOU MAY MISS A BARGAIN

Gordon, Patton Oil 2 sd.
Smith, Gulf Production Co. 2.
**Harris County—**
Near Westfield, Trinity Copper 1, sd.
Hunt, Wright et al 1, sd.
Hockley, The Texas Co. 1, 2.
River, 6 miles east of Humble, Kane Production 2.
**Liberty County—**
Fee, The Texas Co. 2.
Fee, Hofer Oil 1, sd.
**Jefferson County—**
Big Hill, Sun-Pipkin, Houston Oil 1.
Port Arthur Development Co. 1.
**Matagorda County—**
Hawkins, Crossland et al 4.
Dwyer, Marland Oil & Refining 1.
**Jackson County—**
Harwood, Vanderbilt Petroleum 1 sd.
**Wharton County—**
Boling Dome, Felder, Gulf Prod. 3.
**Walker County—**
Wiser Bluff, Ridge Oil & Gas 1, sd.
**Grimes County—**
——, Causeland, et al 1 sd.
**Washington County—**
Southwest of Brenham, Fitzgerald 1, sd.

**SOUTH LOUISIANA**
**Cameron Parish—**
Hackberry Island, Yount-Lee Oil 4.
**Evangeline Parish—**
Tate, Ville Platte Oil 1.
**Acadia Parish—**
Heywood, O. Abshire 1.
**Jeff Davis Parish—**
Ervine, Yount-Lee Oil 1.
Rigs, 14; wells drilling, 36; total, 50.

**SOUTHWEST FIELDS**
**LULING**

| | |
|---|---|
| Trammell, United North & South Oil 9 | 200 |
| Trammell, United North & South Oil 10 | 200 |
| Trammell, United North & South Oil 11 | 200 |
| Ross, Witherspoon Oil 1 | abd |
| Moore, Jarmon and B. & H. Oil 3 | 500 |
| Fields, Brownlee et al 1 | 400 |
| Wells completed | 6 |
| Production | 1500 |
| Abandoned | 1 |

**LAREDO DISTRICTS**

| | |
|---|---|
| Andrews Pool, Witherspoon Oil 1 | gas |
| Schott Pool, Rydal Oil 6 | gas |
| Aviator Oil, Rydal Oil 5 | 100 |
| Wells completed | 3 |
| Production | 100 |
| Gas | 2 |
| Gas production | 43,000,000 |

**JIM HOGG COUNTY**

| | |
|---|---|
| Thompson, Magnolia Petroleum 2 | 350 |
| Thompson, Magnolia Petroleum 3 | 150 |
| Holbein, Witherspoon Oil 4 | 600 |
| Holbein, Witherspoon Oil 5 | 300 |
| Holbein, Plateau-T. P. C. & O. 6 | 500 |
| Holbein, Kisselman and St. Albans 3 | 3000 |
| Martinez, Plateau-Buchanan Co. 2 | 2000 |
| Holbein, O. W. Killiam 3 | 200 |
| Wells completed | 8 |
| Production | 7200 |

**SOUTHWEST FIELDS**
**LULING**
**Rigs**
Allen, United North and South Oil 34.
Lenz, Stebbins Oil & Gas 1.

**Wells Drilling**
Stair, United North & South Oil 7.
McKean, Armstrong et al 2.
Fields, Schols & Carter 3.
Schubert, Magnolia Pet. 14, 15.
Springs, Sykes et al 1.
Fulcher, York Creek Oil 1.
Allen, J. K. Hughes Dev. 21 sd.
Rigs, 2; wells drilling, 8; total, 10.

**LAREDO DISTRICTS**
**Rigs**
——, Allsworth Bros. 8.
Bruni, Cole Pet. 8.
**Wells Drilling**
Los Ojulas, Cin-Tex Oil 7.
Bruni, Cole Pet. 7.
Bruni, O. W. Killiam 4.
——, A. V. Durr 1.
Graza, Snodgrass et al 1.
——, Wheatley Oil 14 (drg. dpr.).
——, Rydale Oil 8.
Morgan-Gibbie 2.
Moran et al 3 (sd.).
Rigs, 2; wells drilling, 10; total, 12.

**JIM HOGG COUNTY**
**Rigs**
Holbein, Plateau-Buchanan 3.
Allen, Rycade-Rydal Oil 1.
Holbein, Plateau Oil & Gas 5.
Martinez, Big Bend Oil & Gas 8, 9.
Holbein, Kisselman & St. Albans 6, 7.
Holbein, Plateau-Wheat 3.
**Wells Drilling**
Holbein, Plateau Oil & Gas 2, 3, 4, 6.
Holbein, Buffman 1 (drg. dpr.).
Martinez, Big Bend Oil & Gas 1, 6, 7.
Thompson, Magnolia Pet. 4, 5.
Holbein, Kisselman & St. Albans 4, 5.
Holbein, Plateau-Wheat 6.
Rigs, 8; wells drilling, 13; total, 21

**SOMERSET**
**Rigs**
Hopkins, Ballard & Underwood 2.
**Wells Drilling**
Langley, Witherspoon Oil 1.
Cortinas, Rio Gravo Oil 2.
Klemcke, Klemcke Co. 14.
Rigs, 1; wells drilling, 3; total, 4.

**CALLIHAM**
**Wells Drilling**
Nichols, Grubstake Inv. 4.
Nichols, Southern Nat. Gas 4.
Frio, Concord Oil 2 (sd.).
Wells drilling 3.

**ROCKDALE-MINERVA**
**Rigs**
Krotz, Terrell Dev. 1.
**Wells Drilling**
Coulter, E. A. Bartlett 2.
Watson, Minerva Pet. 6, 7.
Rigs, 1; drilling, 3; total, 4.

## LEGAL

**ADVERTISEMENT FOR BIDS TO PURCHASE CRUDE OIL AND NATURAL GAS GASOLINE FROM WELLS OPERATED BY THE INTERIOR DEPARTMENT IN THE RED RIVER BED.**

SEALED PROPOSALS will be received by the Secretary of the Interior until noon of March 23, 1925, for the purchase of Oil and Natural Gas Gasoline obtained by the Interior Department from wells under its jurisdiction in the Red River Bed. The bids on oil and natural gas gasoline should be submitted separately.

At the present time the daily production of crude from these wells is about 650 barrels and the natural gas involved is about 16 million cubic feet per month, having a gasoline content of about 5¼ gallons per thousand cubic feet of gas.

Bidders should indicate their price for oil in terms of a differential with respect to the highest price paid by any one of the following companies, for oil of like gravity from the fields in Wichita County, Texas.

Prairie Oil & Gas Co.
Texas Pipeline Co.
Humble Pipe Line Co.
Magnolia Petroleum Corp.

The contractor for the oil will be required to accept it at the gage tanks now installed on the property and subject to the gaging methods and deductions now in effect.

The bid on natural gas gasoline should be a percentage of the total marketable gasoline recoverable, to be paid either in gasoline or cash as the Department may elect. If payment is taken in cash the price shall be the same as that currently received by the contractor for his share of the gasoline. The natural gas will be delivered on the lease to the successful bidder at the wells or gas traps in a manner now in effect and the contractor will be required to return the dry gas at a suitable point or points to the gas distributing system, now installed on the property. The contractor will be allowed to use a reasonable amount of dry gas for plant operation, the remainder to be returned to the properties as fuel.

Payment for either oil or natural gas gasoline shall be made at least twice a month.

As part or all of the property involved may pass at any time from the direct operation of the Department to lessees, no specific guarantee as to the duration of the contracts can be given except that they will cover such oil and natural gas gasoline as may be produced while these properties are operated by the Interior Department. A clause will be inserted in the contract so that in the event the oil or gas applicable to the proposed contract shall be reduced to one-half the original quantity or less because of such leases to private operators, the contractor will have the right to withdraw from his agreement by giving sixty days' notice in writing to the Secretary of the Interior. This clause will not apply to ordinary decline of production. Bidders are required to submit individual bids for the oil and for the natural gas gasoline. There is, however, no objection to any bidder submitting a bid on both oil and natural gas gasoline.

The successful bidder will be required to furnish a surety bond in the amount of $50,000 on oil and $4,000 on natural gas gasoline for the faithful performance of his agreement.

The right is reserved to reject any or all bids as the interest of the Government may require. Proposals must be securely enveloped and marked, "Proposals for the Purchase of Oil and Natural Gas Gasoline from Red River Bid," and addressed to the Secretary of the Interior, Washington, D. C.

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1037 Kennedy Building Tulsa, Okla.

# Oklahoma-Kansas and Eastern Pipe Line Report

### OKLAHOMA-KANSAS PIPE LINE REPORT FOR JANUARY

**Runs**

| Company— | Month | Dy. Av. |
|---|---|---|
| *Prairie Pipe Line Co. | 3,265,000 | 105,000 |
| Gulf Pipe Line Co. | 1,265,555 | 40,824 |
| Texas P. L. Co. of Okla. | 417,720 | 13,475 |
| Magnolia Petroleum Co. | 1,147,078 | 37,003 |
| Empire Pipe Line Co. | 936,200 | 30,200 |
| Cosden Pipe Line Co. | 882,025 | 28,452 |
| Sinclair Pipe Line Co. | 1,255,500 | 40,500 |
| *Other lines | 8,680,000 | 280,000 |
| Total January | 17,839,078 | 575,454 |
| Total December | 18,199,099 | 587,067 |
| Difference | 360,021 | 11,613 |

**Shipments**

| | | |
|---|---|---|
| †Prairie Pipe Line Co. | 4,441,290 | 143,267 |
| Gulf Pipe Line Co. | 1,092,134 | 35,230 |
| Texas P. L. Co. of Okla. | 562,468 | 18,144 |
| Magnolia Petroleum Co. | 1,477,737 | 47,669 |
| Empire Pipe Line Co. | 906,130 | 29,230 |
| Cosden Pipe Line Co. | 884,117 | 28,520 |
| †Sinclair Pipe Line Co. | 2,592,815 | 83,639 |
| *Other lines | 8,990,000 | 290,000 |
| Total January | 20,946,691 | 675,699 |
| Total December | 21,471,050 | 692,615 |
| Difference | 524,359 | 16,916 |

**Stocks**

| | |
|---|---|
| *Prairie Oil & Gas Co. | 26,200,000 |
| *Prairie Pipe Line Co. | 2,000,000 |
| Gulf Pipe Line Co. and Gypsy Oil Co. | 10,008,667 |
| The Texas Co. | 5,008,985 |
| Magnolia Petroleum Co. | 9,041,472 |
| Empire Pipe Line Co. | 2,828,986 |
| Cosden Pipe Line Co. | 2,656,928 |
| *Sinclair Crude Oil Purchasing Co. | 27,800,000 |
| Carter Oil Co. | 16,763,946 |
| *Other lines | 10,400,000 |
| Total January | 112,728,984 |
| Total December | 114,467,198 |
| Difference | 1,738,214 |

*Estimated. †Prairie shipments include Texas crude. Sinclair shipments include Texas and Wyoming oil.

Note—Stocks do not include approximately 9,000,000 bbls. of crude oil held in storage on private tank farms and leases.

#### Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for December and January:

| | Dec., '24 | Jan., '25 |
|---|---|---|
| Nat. Transit | 146,919.77 | 158,224.95 |
| S. W. Pa. P. L. | 77,055.69 | 75,622.06 |
| Eureka P. L. | 325,500.22 | 336,785.07 |
| Buckeye P. L. (Macksburg) | 268,099.71 | 270,937.24 |
| Buckeye P. L. (Cleveland) | 11,908.43 | 11,783.31 |
| Buckeye P. L. (Lima, etc.) | 116,342.97 | 119,433.03 |
| Indiana P. L. | 9,313.04 | 9,562.51 |
| Cumberland P. L. | 322,426.69 | 316,512.12 |
| N. Y. Transit | 18,225.59 | 17,233.29 |
| Tidewater P. L. | 124,235.50 | 125,723.35 |
| Pure Oil | 181,667.26 | 184,170.99 |
| Emery P. L. | 41,081.16 | 43,635.37 |
| Indian Ref. | 46,543.37 | 50,678.03 |
| Paragon Dev. | 33,306.81 | 34,625.09 |
| Pittsburgh P. L. | 7,614.22 | 6,841.87 |
| Total | 1,730,240.45 | 1,761,768.28 |
| Daily average | 55,814.21 | 56,831.23 |

Note — Indian Refining Co. also reported other receipts of 340,336.73 bbls. Paragon Refining Co. had other receipts of 93,270.33 bbls. Paragon Development Co. had other receipts of 3,465.80 bbls. Pittsburgh Pipe Line had other receipts of 2,012.44 bbls.

#### Petroleum Deliveries

The following tables exhibit the shipments of regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for December and January:

| | Dec., '24 | Jan., '25 |
|---|---|---|
| Nat. Transit | 344,060.58 | 430,479.78 |
| S. W. Pa. P. L. | 330,866.53 | 352,482.72 |
| Eureka P. L. | 103,380.36 | 104,202.98 |
| Buckeye P. L. (Macksburg) | 98,280.80 | 108,833.21 |
| Buckeye P. L. (Cleveland) | 1,456.53 | 971.46 |
| Buckeye P. L. (Lima, etc.) | 775,735.14 | 737,449.65 |
| Indiana P. L. | 1,178,592.89 | 1,184,796.12 |
| Cumberland P. L. | 147,345.46 | 151,651.28 |
| N. Y. Transit | 671,474.49 | 833,143.35 |
| North P. L. | 131,021.77 | 127,033.43 |
| Tidewater | 143,854.20 | 123,127.50 |
| Pure Oil | 162,869.97 | 184,953.81 |
| Emery P. L. | 42,781.09 | 42,468.57 |
| Paragon Ref. | 105,948.04 | 86,990.07 |
| Indian Ref. | 412,965.43 | 396,223.19 |
| Paragon Dev. | 33,647.32 | 19,862.92 |
| Pittsburgh P. L. | 8,857.56 | 9,893.25 |
| Total | 4,693,138.16 | 4,894,563.29 |
| Daily average | 151,391.55 | 157,889.13 |

Indian Refining Co. had other deliveries of 5,115.72 bbls.

#### Gross Stocks

The gross stocks held by various pipe lines in the oil producing section of New York, Pennsylvania, West Virginia, Indiana and Kentucky at the close of December and January were as follows:

| | Dec., '24 | Jan., '25 |
|---|---|---|
| Nat. Transit | 958,729.73 | 997,527.01 |
| S. W. Pa. P. L. | 635,754.50 | 671,822.11 |
| Eureka P. L. | 1,860,765.64 | 1,703,887.63 |
| Buckeye P. L. (Macksburg) | 369,027.80 | 327,725.42 |
| Buckeye P. L. (Cleveland) | 57,701.66 | 37,659.69 |
| Buckeye P. L. (Lima) | 3,726,305.85 | 3,556,916.92 |
| Indiana P. L. | 613,810.50 | 617,271.50 |
| Cumberland P. L. | 607,353.62 | 627,054.27 |
| South P. L. | 550,124.29 | 595,691.07 |
| Crescent P. L. | 58,170.73 | 58,217.64 |
| N. Y. Transit | 620,729.14 | 718,889.21 |
| North P. L. | 976,983.74 | 989,912.28 |
| Pure Oil | 415,288.64 | 407,274.06 |
| Emery P. L. | 7,841.43 | 8,880.37 |
| Paragon Ref. | 36,658.11 | 42,815.50 |
| Indian Ref. | 69,804.95 | 64,092.91 |
| Paragon Dev. | 13,149.94 | 13,161.62 |
| Pitts. P. L. | 5,479.15 | 4,506.45 |
| Total | 11,583,679.52 | 11,353,275.66 |
| Decrease | 684,850.24 | 230,403.86 |

#### Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern pipe lines at the close of December and January showing the gross stocks of the above fields:

| | Dec., '24 | Jan., '25 |
|---|---|---|
| Penna | 3,932,186.36 | 3,892,776.91 |
| Lima | 1,343,428.02 | 1,289,019.05 |
| Kentucky | 1,408,856.79 | 1,421,861.94 |
| Mid-Continent | 4,851,486.54 | 4,711,600.48 |
| Illinois | 47,721.81 | 38,017.28 |
| Total | 11,583,679.52 | 11,353,275.66 |

#### Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

| | 1922 | 1923 | 1924 | 1925 |
|---|---|---|---|---|
| January | 67,702 | 75,790 | 62,638 | 56,831 |
| February | 75,096 | 71,092 | 68,023 | ..... |
| March | 78,534 | 76,592 | 68,721 | ..... |
| April | 75,462 | 75,614 | 71,058 | ..... |
| May | 77,592 | 77,365 | 63,942 | ..... |
| June | 75,193 | 77,593 | 63,230 | ..... |
| July | 76,435 | 71,879 | 64,208 | ..... |
| August | 79,387 | 76,910 | 59,942 | ..... |
| September | 78,512 | 72,358 | 62,930 | ..... |
| October | 77,209 | 76,256 | 64,976 | ..... |
| November | 75,313 | 70,762 | 56,282 | ..... |
| December | 73,351 | 69,271 | 55,814 | ..... |

#### Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

| | 1922 | 1923 | 1924 | 1925 |
|---|---|---|---|---|
| January | 119,792 | 171,067 | 145,518 | 157,889 |
| February | 111,362 | 164,219 | 148,732 | ..... |
| March | 127,763 | 185,487 | 147,098 | ..... |
| April | 127,068 | 170,751 | 147,611 | ..... |
| May | 127,840 | 177,102 | 134,997 | ..... |
| June | 137,638 | 173,598 | 143,010 | ..... |
| July | 137,872 | 168,330 | 124,187 | ..... |
| August | 153,275 | 142,766 | 123,120 | ..... |
| September | 158,761 | 137,266 | 127,325 | ..... |
| October | 165,345 | 134,597 | 123,170 | ..... |
| November | 165,677 | 131,426 | 124,400 | ..... |
| December | 127,861 | 139,969 | 151,392 | ..... |

#### Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

| | | | |
|---|---|---|---|
| January | 14,040,587 | 12,997,202 | 11,883,270 |
| February | 14,028,437 | 11,844,068 | ..... |
| March | 13,873,146 | 10,906,752 | ..... |
| April | 13,737,575 | 10,932,742 | ..... |
| May | 13,815,622 | 11,335,309 | ..... |
| June | 14,541,253 | 11,544,204 | ..... |
| July | 14,645,584 | 12,062,361 | ..... |
| August | 14,770,539 | 12,221,676 | ..... |
| September | 14,803,444 | 12,206,836 | ..... |
| October | 14,504,111 | 12,664,061 | ..... |
| November | 14,157,726 | 12,268,530 | ..... |
| December | 13,444,361 | 11,583,680 | ..... |

#### Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

| 1924— | Receipts | Shipm'ts | Stocks |
|---|---|---|---|
| January | 2,943.19 | 8,641.71 | 9,848.75 |
| February | 2,151.78 | 1,926.55 | 10,073.98 |
| March | 2,398.78 | 1,716.28 | 11,756.48 |
| April | 3,311.84 | 2,066.78 | 13,001.54 |
| May | 3,036.50 | 5,338.21 | 10,699.83 |
| June | 3,188.31 | 407.01 | 13,481.13 |
| July | 3,067.74 | 3,334.29 | 13,214.58 |
| August | 2,901.36 | 6.31 | 16,109.73 |
| September | 2,794.58 | 5,775.89 | 13,128.43 |
| October | 3,342.40 | 1,880.50 | 14,590.33 |
| November | 2,700.13 | 482.89 | 15,437.56 |
| December | 3,120.34 | 2,659.13 | 12,898.77 |
| 1925— | | | |
| January | 1,730.86 | 1,681.15 | 12,938.48 |

#### The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

| | |
|---|---|
| Gross stocks, Feb. 1 | 2,324,570.96 |
| Runs from wells | 666,779.07 |
| Other receipts | 501,888.94 |
| Regular deliveries | 572,304.77 |
| Other deliveries | 377,368.43 |

The amount of Illinois oil run by the Tidewater Pipe Line Co. in January was 28,734.36 bbls., and deliveries were nothing. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries from the Illinois Field as follows:

| 1924— | Runs | Deliveries |
|---|---|---|
| January | 493,337.25 | 280,792.09 |
| February | 535,490.70 | 353,613.14 |
| March | 611,289.36 | 369,542.61 |
| April | 514,356.43 | 339,546.19 |
| May | 751,080.44 | 510,414.43 |
| June | 725,060.87 | 528,402.33 |
| July | 759,646.84 | 552,386.59 |
| August | 720,457.72 | 519,335.79 |
| September | 714,875.36 | 536,763.59 |
| October | 741,767.42 | 543,863.77 |
| November | 650,147.63 | 521,459.31 |
| December | 640,919.23 | 595,942.27 |
| 1926— | | |
| January | 695,513.43 | 572,304.77 |

The Tidewater Pipe Co., Ltd., also delivered in January 477,276.32 bbls. of Oklahoma oil. The total deliveries of all grades by the Tidewater were 600,402.82 bbls.

## AVERAGE WEEKLY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

| Average bbls. per week— | ATLANTIC PORTS | | | | | | GULF COAST PORTS | | | | | | Total All Ports |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Baltimore | Boston | New York | Philadelphia | Others | Total | Galveston | New Orleans Baton Rouge | Port Arthur Sabine Pass | Tampa | Total | | |
| October | 85,379 | 49,000 | 391,069 | 85,602 | 36,127 | 784,056 | ..... | ..... | ..... | ..... | ..... | | 784,056 |
| November | 119,469 | 52,031 | 527,948 | 38,031 | 37,331 | 637,931 | ..... | ..... | ..... | ..... | ..... | | 637,931 |
| December | 57,127 | 16,709 | 386,806 | 81,067 | 18,291 | 561,540 | ..... | 21,000 | ..... | ..... | 21,000 | | 582,540 |
| January | 86,933 | 16,030 | 310,933 | 75,418 | 58,709 | 548,023 | ..... | ..... | ..... | ..... | ..... | | 548,023 |

## AVERAGE WEEKLY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

| Average bbls. per week— | ATLANTIC PORTS | | | | | | GULF COAST PORTS | | | | | Total All Ports |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Baltimore | Boston | New York | Philadelphia | Others | Total | Galveston | New Orleans Baton Rouge | Port Arthur Sabine Pass | Tampa | Total | |
| October | 136,826 | 67,515 | 257,418 | 90,818 | 113,127 | 665,704 | 231,903 | 268,816 | 111,097 | 29,351 | 640,967 | 1,306,671 |
| November | 198,569 | 87,500 | 477,631 | 165,410 | 258,531 | 1,187,641 | 383,831 | 380,569 | 94,269 | 19,831 | 878,500 | 2,066,141 |
| December | 165,515 | 25,515 | 269,164 | 82,418 | 246,582 | 689,194 | 220,388 | 358,806 | 76,321 | 51,499 | 707,014 | 1,396,208 |
| January | 129,843 | 113,582 | 440,776 | 80,739 | 191,709 | 936,649 | 205,051 | 398,097 | 100,331 | 28,231 | 731,710 | 1,668,359 |

## GROSS PRODUCTION IN THE UNITED STATES FOR 12 MONTHS

| | | California | Oklahoma | Texas | Kansas | Arkansas | Louisiana | Rocky Mountain | Eastern Fields | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| February: | Month | 19,341,226 | 12,236,437 | 10,238,052 | 2,211,853 | 3,302,750 | 1,504,450 | 3,996,251 | 2,984,000 | 55,716,019 |
| | Daily average | 666,939 | 421,953 | 353,036 | 72,867 | 113,857 | 51,877 | 137,791 | 102,896 | 1,921,243 |
| March: | Month | 19,913,262 | 13,336,851 | 11,044,503 | 2,206,426 | 3,882,695 | 1,701,593 | 3,827,204 | 3,250,600 | 61,163,134 |
| | Daily average | 642,363 | 430,221 | 388,532 | 71,175 | 125,247 | 54,890 | 123,460 | 104,858 | 1,975,004 |
| April | Month | 19,299,849 | 13,452,240 | 11,577,246 | 2,268,540 | 4,068,225 | 1,495,582 | 3,738,332 | 3,273,600 | 58,173,614 |
| | Daily average | 643,328 | 448,408 | 385,908 | 75,618 | 135,608 | 49,853 | 124,611 | 109,120 | 1,939,121 |
| May | Month | 19,833,576 | 14,247,697 | 11,623,395 | 2,459,765 | 4,659,117 | 1,596,701 | 3,866,010 | 3,264,000 | 61,550,261 |
| | Daily average | 639,793 | 459,603 | 374,948 | 79,347 | 150,288 | 51,507 | 124,710 | 105,042 | 1,985,492 |
| June: | Month | 18,807,999 | 14,447,390 | 11,602,350 | 2,469,380 | 4,756,443 | 1,812,580 | 3,638,634 | 3,253,600 | 60,788,366 |
| | Daily average | 626,933 | 481,580 | 386,745 | 82,313 | 158,548 | 60,429 | 121,288 | 108,453 | 2,026,279 |
| July: | Month | 19,274,755 | 15,191,860 | 11,917,137 | 2,671,053 | 4,597,969 | 1,815,966 | 3,768,398 | 3,371,600 | 62,607,738 |
| | Daily average | 621,766 | 490,060 | 384,424 | 86,195 | 148,322 | 58,580 | 121,561 | 108,761 | 2,019,637 |
| August: | Month | 19,112,998 | 16,525,356 | 11,808,876 | 2,717,398 | 4,359,241 | 1,702,525 | 3,749,375 | 3,286,000 | 63,261,769 |
| | Daily average | 616,548 | 533,076 | 380,931 | 87,658 | 140,621 | 54,920 | 120,948 | 106,000 | 2,040,702 |
| September: | Month | 18 308,233 | 16,299,030 | 11,089,492 | 2,638,900 | 4,029,535 | 1,795,575 | 3,330,007 | 3,150,000 | 60,640,772 |
| | Daily average | 610,274 | 543,301 | 369,650 | 87,963 | 134,318 | 59,853 | 111,000 | 101,936 | 2,021,359 |
| October: | Month | 18,696,559 | 16,189,898 | 10,942,005 | 2,768,455 | 3,983,696 | 1,774,707 | 3,058,268 | 3,395,000 | 60,808,588 |
| | Daily average | 603,115 | 522,255 | 353,000 | 89,305 | 128,506 | 57,249 | 98,654 | 109,516 | 1,961,567 |
| November: | Month | 17,767,034 | 15,955,620 | 10,731,264 | 2,597,460 | 3,461,050 | 1,965,921 | 2,788,110 | 2,941,000 | 58,207,459 |
| | Daily average | 592,234 | 531,854 | 357,709 | 86,582 | 115,035 | 65,531 | 92,937 | 98,033 | 1,940,248 |
| December: | Month | 18,796,126 | 16,031,185 | 11,264,915 | 2,537,443 | 3,380,511 | 1,870,876 | 2,302,888 | 3,000,850 | 59,183,794 |
| | Daily average | 606,294 | 517,135 | 363,384 | 81,853 | 109,049 | 60,351 | 74,287 | 96,402 | 1,909,155 |
| January: | Month | 18,743,288 | 15,462,800 | 13,790,195 | 2,520,858 | 3,278,484 | 1,774,072 | 2,627,676 | 3,066,933 | 61,263,366 |
| | Daily average | 604,622 | 498,800 | 444,845 | 81,318 | 105,758 | 57,228 | 84,760 | 98,903 | 1,976,231 |
| | Total 12 months | 227,893,905 | 179,376,364 | 138,629,430 | 29,968,531 | 47,759,716 | 20,810,548 | 40,691,153 | 38,236,243 | 723,365,890 |
| | Daily average | 622,660 | 490,099 | 378,769 | 81,881 | 130,491 | 56,859 | 111,178 | 104,471 | 1,976,409 |

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